WEST VIRGINIA UNIVERSITY

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WEST VIRGINIA UNIVERSITY

The 1956-57 Catalog

ANNOUNCEMENTS OF THE 1956 - 57 SESSION

STAFF AND DATA OF THE 1955 - 56 SESSION

WEST VIRGINIA UNIVERSITY BULLETIN

CORRESPONDENCE

Correspondence should be addressed as follows:

ADMISSIONS AND RECORDS

Registrar

ALUMNI MATTERS

Alumni Secretary

CATALOG, ANNOUNCEMENTS

Registrar

EMPLOYMENT OF SENIORS AND ALUMNI

Placement Bureau

HOUSING

On campus: Business Director of Residence Halls

INFORMATION

Bureau of Information

MATTERS OF GENERAL UNIVERSITY INTEREST

The President

VETERANS AFFAIRS

Veterans Coordinator

WEST VIRGINIA UNIVERSITY, MORGANTOWN, W. VA.

SERIES 56, NO. 10-1 — WEST VIRGINIA UNIVERSITY BULLETIN — APRIL, 1956

The *West Virginia University Bulletin* is issued monthly throughout the year. Publications included are the *Announcements* of the College of Arts and Sciences, the College of Agriculture, Forestry, and Home Economics, the College of Commerce, the College of Education, the College of Engineering and Mechanic Arts, the Division of Forestry, the School of Journalism, the College of Law, the School of Medicine, the School of Mines, the School of Music, the College of Pharmacy, the School of Physical Education and Athletics, the Graduate School, the Summer Session and the Evening Education Program; the *General Catalog;* bulletins of the College of Engineering and the School of Mines; other scholarly and scientific publications; and the *Proceedings* of the West Virginia Academy of Science.

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The Board of Governors

	TERM EXPIRES
Raymond E. Salvati, *President,* Huntington	1956
William G. Thompson, *Vice-President,* Montgomery	1964
K. Douglas Bowers, *Secretary,* Beckley	1962
Thomas E. Millsop, Weirton	1957
Mrs. Paul Hammann, Martinsburg	1958
E. G. Otey, Bluefield	1959
Thomas L. Harris, Parkersburg	1960
A. C. Spurr, Wheeling	1961
Frank J. Zsoldos, Pineville	1963
Irvin Stewart, *Chief Executive Officer,* Morgantown	

The Board of Governors has charge of the educational, administrative, financial and business affairs of the University and Potomac State College of West Virginia University.

Administrative Officers

General

Irvin Stewart, LL.B., A.B., A.M., Ph.D., LL.D., *President of the University* (1946).
Betty Boyd, A.B., *Dean of Women* (1955), 1948.
Robert Ferguson Munn, M.A., *Acting Librarian* (1955), 1952.
Joseph Clay Gluck, B.A., B.D., *Director of Student Affairs* (1949), 1943.
Louise Keener, B.A., *Comptroller* (1954), 1928.
J. Everett Long, M.A., *Registrar of the University and Chairman of Committee on Admissions* (1945), 1929.

Colleges, Schools, and Divisions

Chester A. Arents, M.E., *Dean of the College of Engineering* (1955).
Raymond W. Coleman, Ph.D., *Dean of the College of Commerce* (1952), 1948.
Armand Rene Collett, Ph.D., *Dean of the College of Arts and Sciences* (1951), 1924.
Ray Oscar Duncan, Ed.D., *Dean of the School of Physical Education and Athletics* (1952).
Robert Barclay Dustman, Ph.D., *Dean of the Graduate School* (1949), 1924.
Eston Kermit Feaster, Ed.D., *Dean of the College of Education* (1953), 1949.
Douglas Graver Gilbert, B.S., *Colonel, Infantry, U.S. Army, Head of the Military Division* (1953).
Thomas Porter Hardman, J.D., *Dean of the College of Law* (1931), 1913.
Weldon Hart, Ph.D., *Director of the School of Music* (1949).
Joseph Lester Hayman, Ph.C., M.S., *Dean of the College of Pharmacy* (1936), 1919.
John Oliver Knapp, B.S.Agr., *Director of the Agricultural Extension Division* (1938), 1917.
Walter Allos Koehler, Ph.D., *Director of the Engineering Experiment Station* (1952), 1924.
Perley Isaac Reed, Ph.D., *Director of the School of Journalism* (1939), 1920.
J. Ben Robinson, D.D.S., D.Sc., *Dean of the School of Dentistry* (1953).
Garold Ralph Spindler, E.M., *Director of the School of Mines* (1948), 1934.
Edward Jerald Van Liere, M.D., Ph.D., *Dean of the School of Medicine* (1937), 1921.
Harry Ross Varney, Ph.D., *Dean of the College of Agriculture, Forestry, and Home Economics, and Director of the Agricultural Experiment Station* (1950).

Heads of Other Administrative Offices

Boris Constant Belpuliti, M.S., *Director of Student Activities Building* (1953).
Robert Nathan Brown, A.B., *Director of Intercollegiate Athletics* (1954), 1950.
David Wood Jacobs, A.B., *Director, Bureau of Information; Alumni Secretary* (1938).
Margaret Cornelia Ladwig, Ph.D., *Placement Adviser* (1949).
John Joseph Lawless, Ph.D., M.D., *Director, University Health Service* (1944), 1935.
John Luchok, B.S.J., *University Editor* (1953), 1950.
Ernie Bevan McCue, A.B., A.M., *Director of University Extension* (1952), 1947.
Delmas Ferguson Miller, Ph.D., *Principal, University High School* (1950), 1949.
Edwin Orr, B.S.M.E., *Superintendent, Buildings and Grounds* (1954), 1949.
Robert Chatterton Pulling, B.S., *Director of Administration* (1954).
Ruth Eleanor Robinson, A.M., *Manager, University Book Store* (1944), 1939.
Bulan Talmadge Thomas, Jr., B.S., *Veterans Coordinator* (1953).
Mayme Elizabeth Waddell, B.S., M.A., *Director, Residence Halls* (1935), 1930

Standing Committees

THE UNIVERSITY

ADMISSIONS: The Registar and the deans and directors of all colleges and schools admitting freshmen.

BOARD OF GOVERNORS SCHOLARSHIPS: F. J. Holter, Betty Boyd, C. H. Cather, J. L. Hall, J. E. Long, and M. L. Vest.

BUILDINGS AND GROUNDS: A. R. Collett, H. M. Cather, R. O. Duncan, R. C. Pulling, and A. H. VanLandingham.

OFF-CAMPUS CONTACTS: M. G. Brooks, R. R. Ashburn, D. H. Bond, J. P. Brawner, Francisco Herrera, Mary C. Buswell, D. W. Jacobs, J. E. Long, Ruth D. Noer, W. R. Summers, Jr., and Dana Wells.

PERMANENT BUILDINGS: C. L. Lazzell, R. D. Baldwin, H. M. Cather, R. S. Marsh, and F. P. Summers.

SPACE ALLOCATIONS: R. D. Baldwin, C. L. Lazzell, J. E. Long, and Edwin Orr.

THE SENATE

EXECUTIVE COMMITTEE: President Stewart, W. W. Armentrout, J. P. Brawner, E. L. Core, J. J. Lawless, C. L. Lazzell, J. E. Long, and M. E. Lugar.

COMMITTEES: Morton Backer, O. J. Burger, J. A. Gibson, Greek Sayre, and J. C. Stickney.

ENGLISH PROFICIENCY BOARD: Q. F. Curtis, J. P. Brawner, A. T. Cross, A. W. Goodspeed, Beatrice Hurst, E. C. Kennedy, and L. Z. Seltzer.

EXTENSION: T. S. Isaack, T. E. Ennis, F. J. Holter, W. H. Jarecke, J. O. Knapp, E. B. McCue, and G. R. Spindler.

INSTRUCTIONAL PRACTICES AND POLICIES: M. G. Brooks, O. H. Cross, E. C. Dubbe, L. T. Fish, Leo Fishman, D. G. Gilbert, J. B. Hickman, and A. E. Singer.

INTER-COLLEGE RELATIONS: H. R. Varney and all other Deans and Directors.

LIBRARY: C. E. Butler, W. H. Baker, W. D. Barns, P. W. Gainer, J. J. Lawless, V. J. Lemke, and J. H. Thompson.

MEMBERSHIP: W. S. Minor, J. L. Hall, Arthur Lewis, and A. F. Wojick.

PUBLICATIONS: Helen P. Pettigrew, E. L. Core, J. C. Easton, R. W. Laird, John Luchok, G. R. McKinney, and G. G. Somers.

RESEARCH: J. F. Ollom, H. L. Barnett, A. T. Cross, R. B. Dustman, R. E. Foster, E. W. Hanczaryk, W. A. Koehler, Charles Norman, E. L. Puryear, W. R. Ross, H. R. Varney, and D. T. Watts.

STUDENT AFFAIRS: J. C. Gluck. Members to consist of the various chairmen of subcommittees on student affairs as appointed by the President.

Convocations: J. C. Gluck, Weldon Hart, D. T. Watts, and J. R. Williams; student members: Barbara S. Dodds, Edward Galligan, David Michael Harcharic, and Katherine M. Moler.

Discipline: C. K. Sleeth, Helen M. Pettigrew, and M. L. Vest.

New Residences: J. C. Gluck, L. R. Gribble, Stephen Harrick, and Cornelia Ladwig.

Off-Campus Schedules: J. C. Gluck, A. R. Collett, and J. L. Hayman.

Prizes, Scholarships and Loan Funds: J. C. Gluck, Betty Boyd, Q. F. Curtis, A. W. Goodspeed, J. E. Long, and R. M. White.

Social Affairs: J. C. Gluck, Betty Boyd, H. A. Gibbard, D. G. Gilbert, Helen K. Harrison, C. B. Seibert, and Dana Wells; student members: Rachael A. Hess, George M. Curry, Carolyn Reynolds, and Donald L. Bopp.

Student Fee Fund: J. C. Gluck and Betty Boyd; student members: Curtis H. Barnette, Jack Front, and Carolyn Reynolds.

Student Organizations: E. L. Core, Beatrice Hurst, P. W. Gainer, Mary C. Buswell, and F. J. Holter.

Student Publications: P. I. Reed, Henry D. Collins, P. W. Gainer, Howard Jeffrey, John Luchok, and John Williams; student members: Linda Bartlett, John Hutchison, and Charles Petty.

Subcommittee on Loans: J. C. Gluck, J. H. Clark, C. L. Lazzell, and E. O. Roberts.

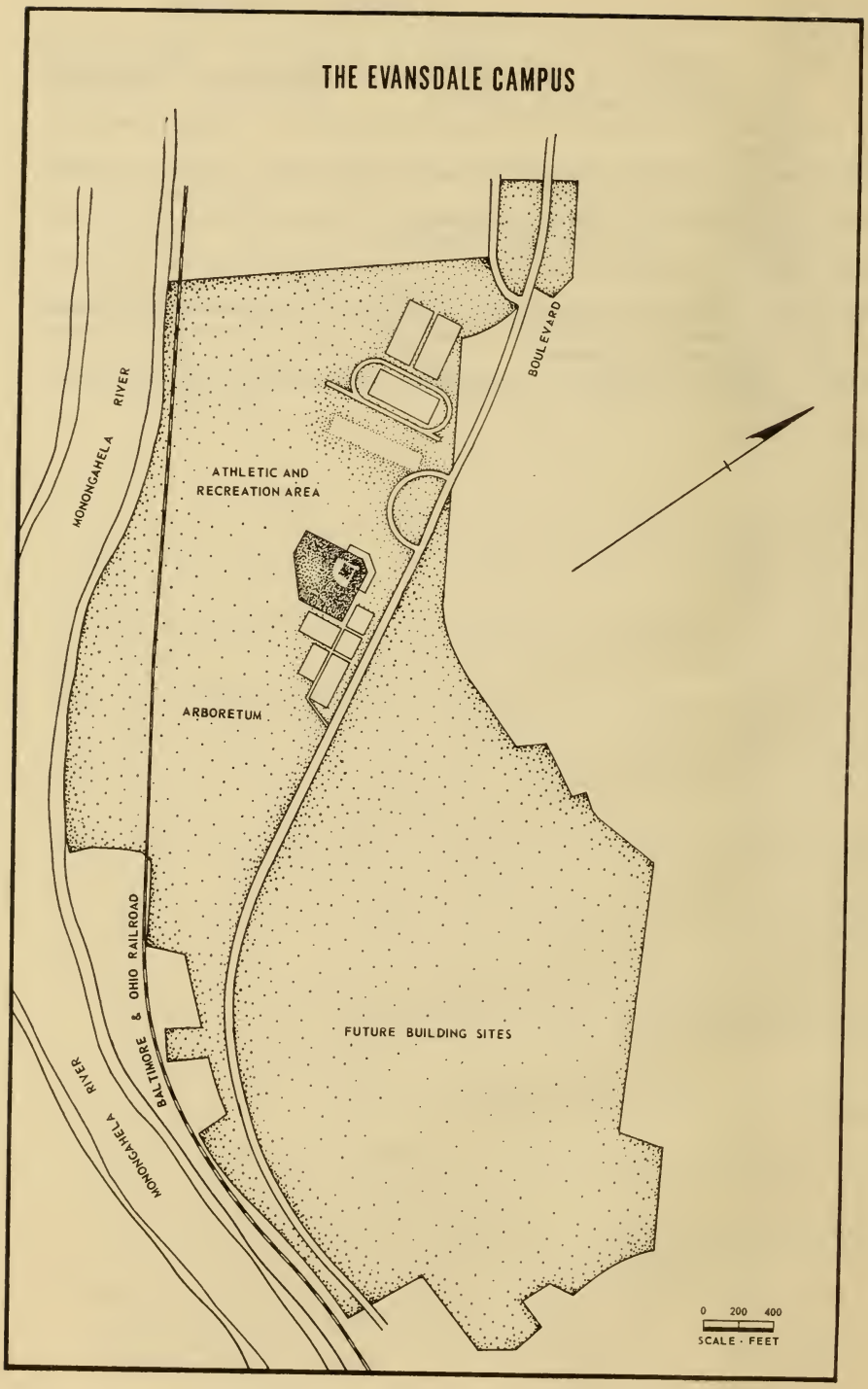
STUDENT ELIGIBILITY: Kenneth Wood, H. A. Davis, R. F. Dugan, J. C. Gluck, J. E. Long, and C. O. Loomis.

STUDENT ETHICS IN ACADEMIC WORK: Dana Wells, Nell Ammons, H. V. Fairbanks, H. N. Kerr, and A. N. Nybroten.

TEACHER EVALUATION: G. E. Toben, F. Herrera, Mavis Mann, M. L. Vest, and G. W. Weaver.

TEACHER TRAINING: Sara R. Smith, J. P. Brawner, T. J. Brennan, R. C. Butler, T. C. Campbell, Jr., E. K. Feaster, J. H. Henning, B. R. McGregor, D. F. Miller, John Semon and J. K. Stewart.

TENURE AND RETIREMENT: L. H. Brown, Grace Griffin, R. C. Gunton, C. L. Lazzell, and I. D. Peters.


THE EVANSDALE CAMPUS
MONONGAHELA RIVER
BOULEVARD
ATHLETIC AND RECREATION AREA
ARBORETUM
BALTIMORE & OHIO RAILROAD
MONONGAHELA RIVER
FUTURE BUILDING SITES
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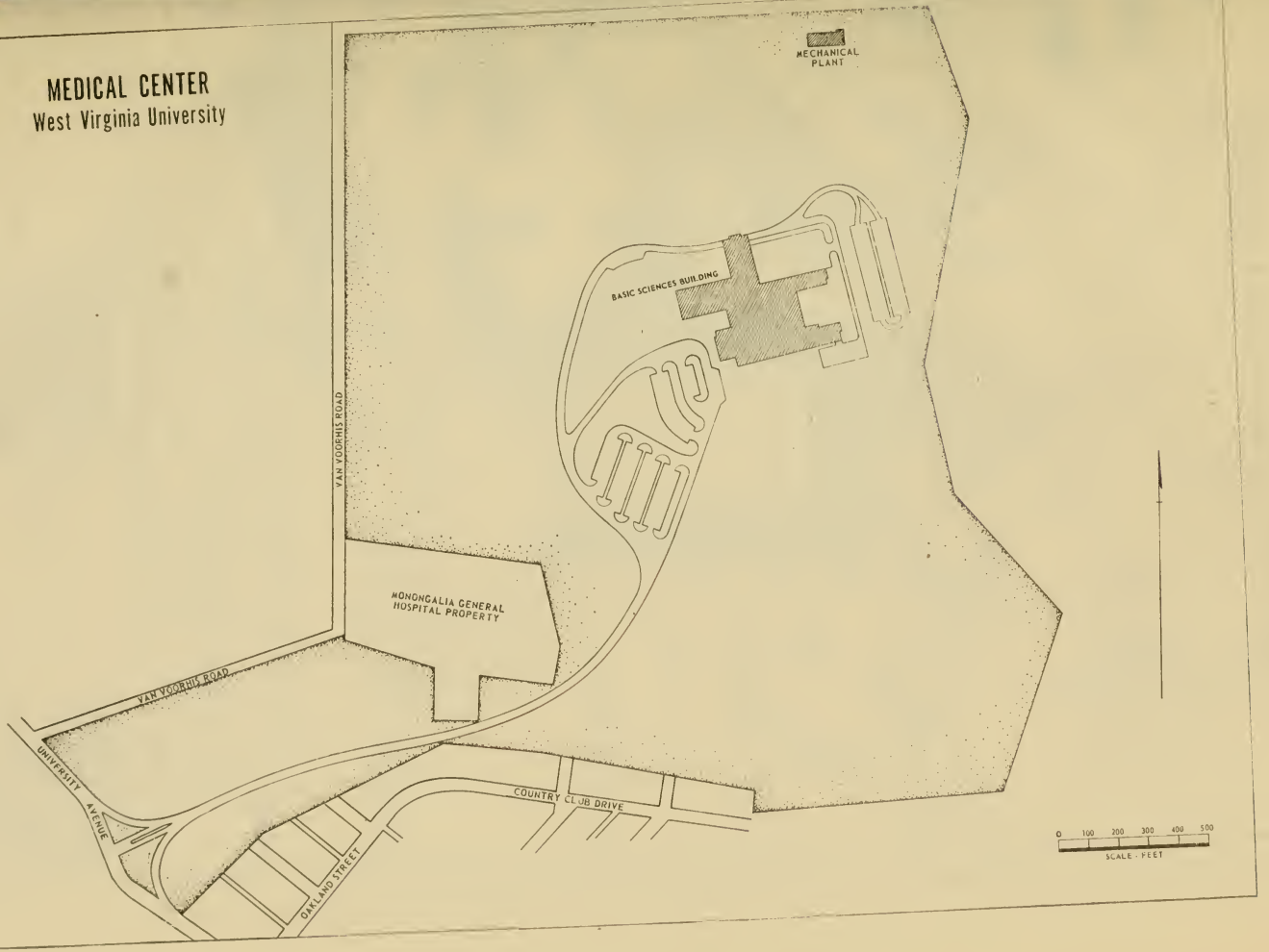
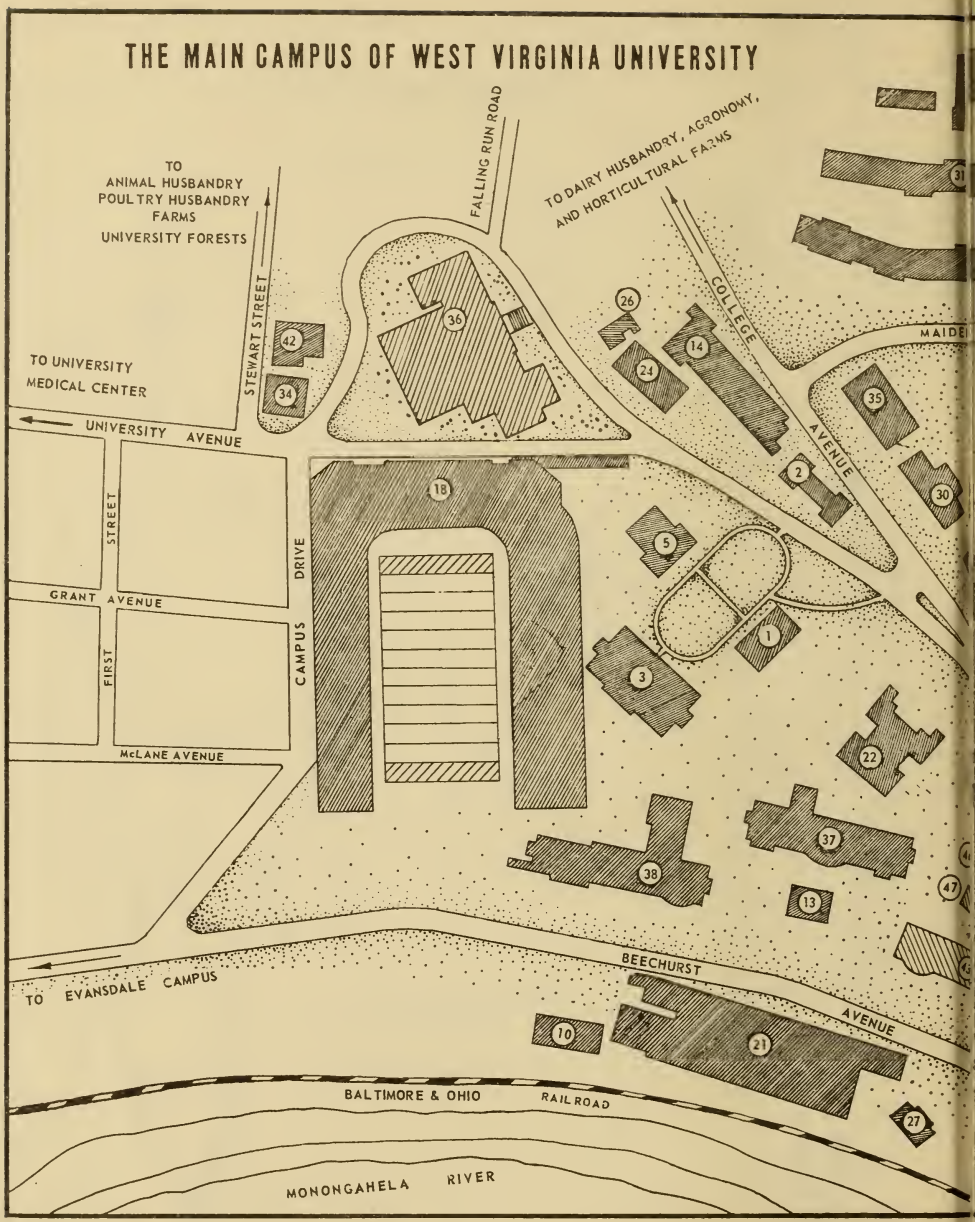
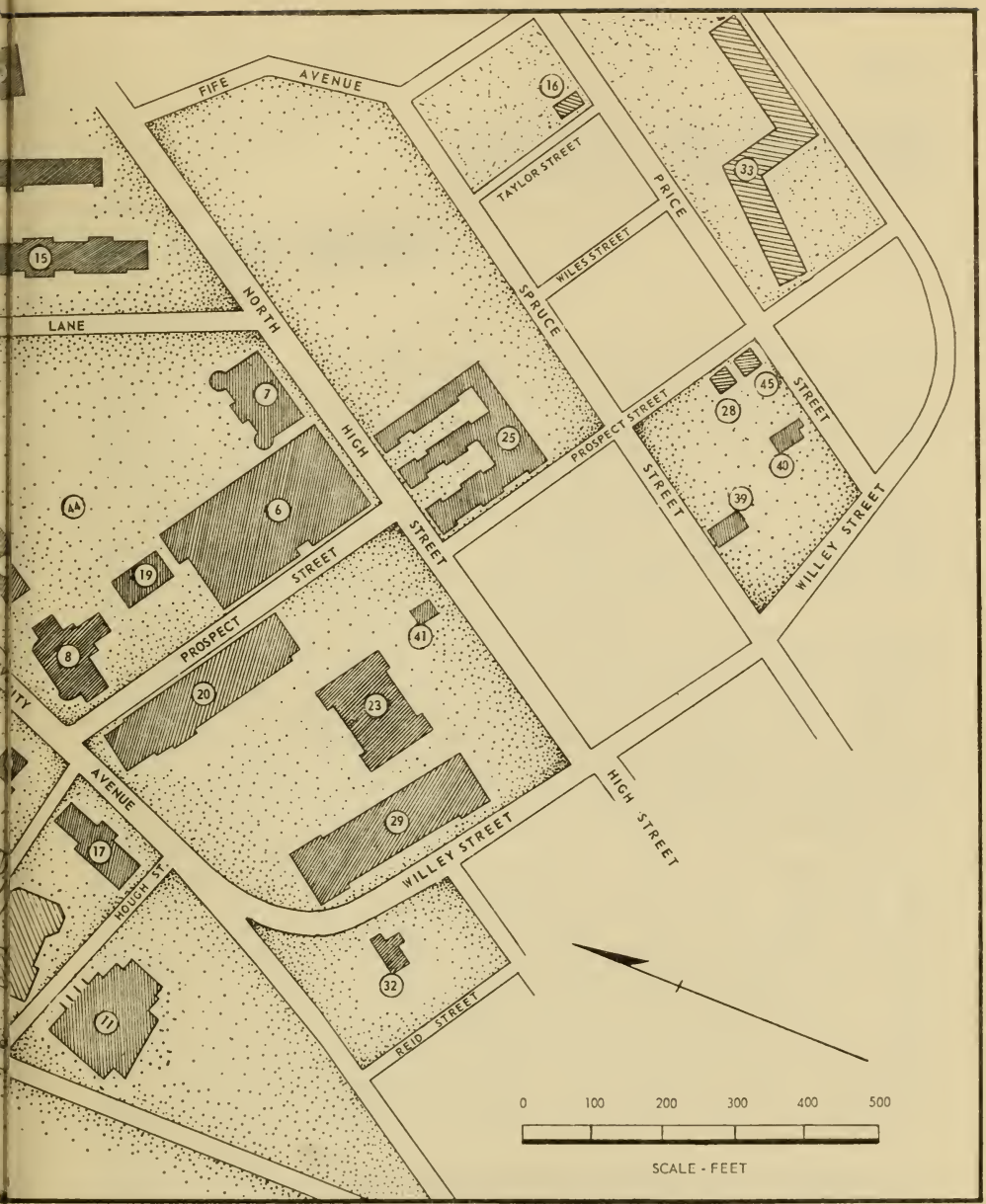
SCALE · FEET

MEDICAL CENTER
West Virginia University





1. Martin Hall
2. Experiment Station
3. Woodburn Hall
4. Reynolds Hall
5. Science Hall
6. Mechanical Hall
7. Armory
8. Administration Building
9. President's Home
10. Heating Plant
11. School of Music
12. Horticulture Greenhouse
13. School of Medicine
14. Oglebay Hall
15. Woman's Hall
16. Agricultural Economics No. 2
17. College of Law
18. Mountaineer Field
19. Speech Annex
20. Chemistry Building
21. Field House
22. Elizab
23. Libra
24. Ogleb
25. Men's
26. Agricu No. 1
27. Labor Schoo
28. Textil
29. Miner Build



Moore Hall
all Annex
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al Economics
y Elementary
Laboratory
ndustries

30. Health Center
31. Terrace Hall
32. Home Management House
33. New Women's Dormitory
34. Forestry Building
35. Cafeteria
36. Mountainlair
37. Armstrong Hall
38. Brooks Hall
39. Spruce Street Annex
40. Nursery School
41. Glasscock Annex
42. Plant Pathology Greenhouse
43. Physics Building
44. Drill Field
45. Home Management Apartments
46. Counseling Center
47. Placement Office

Part I

GENERAL INFORMATION

WEST VIRGINIA UNIVERSITY

HISTORY

West Virginia University had its origin in the Congressional Land-Grant (Morrill) Act of July 2, 1862, for the benefit of agriculture and the mechanic arts, and in an act of the State Legislature of October 3, 1863, accepting the conditions of the Congressional act. In case of a doubt regarding the rights of West Virginia under the act, the Legislature asked that the benefits be extended to her. By an act of April 19, 1864, the request was granted, and land-script for 150,000 acres, most of which were later located in Iowa and Minnesota, was issued to the new state.

On January 9, 1866, the trustees of Monongalia Academy offered to give the State all its property, including the site and other property of nearby Woodburn Female Seminary, representing a total value of about $51,000, on condition that the proposed college "be located permanently at or near Morgantown." On February 7, 1867, the Legislature accepted the offer of Monongalia Academy and established the "Agricultural College of West Virginia" at Morgantown.

Government and control of the "Agricultural College" were vested in a Board of Visitors composed of one member from each of the State's eleven senatorial districts. In response to requests from President Martin, the Legislature, by an act of December 4, 1868, changed the name of the "Agricultural College" to "West Virginia University." At the same time the name of the controlling body was changed from "Board of Visitors" to "Board of Regents." Primarily to serve political purposes, the number of regents was changed from time to time to 1919, when government and control were vested in a State Board of Education of five members including the State superintendent of free schools as the ex officio chairman. This plan proved unsatisfactory, and an act of April 14, 1927, vested control in a Board of Governors of seven members. The number was increased in 1947 to nine.

From 1867 to 1895 and even longer, leaders were divided as to whether West Virginia should have a State-supported university or one "first-class" State-supported college. With devotees of liberty dominating the situation "the College Plan" was favored. Component "departments" and "schools," with the professors generally occupying "chairs," functioned autonomously and somewhat provincially. Efforts to comply with the Hatch Act (1887) and the Second Morrill Act (1890) brought larger viewpoints. As a result President Goodknight, who had traveled abroad, in 1895 attempted to convert "the College" into a university. For that purpose "the eight Academy Schools, five Technical and Professional Schools, and four Special Courses" were organized into four colleges, each with a dean, as follows: Arts and Sciences, Powell B. Reynolds; Engineering and Mechanic Arts, William S. Aldrich; Agriculture, John A. Meyers; and Law, Judge Okey Johnson. The School of Music was established in 1897, a "Summer Quarter" or "Continuous Session" in 1898, and a College of Medicine in 1900.

Both the College of Medicine and the Summer Quarter were discontinued in 1901. Beginning in 1897 the College of Arts and Sciences and the College of Engineering and Mechanic Arts functioned without deans and through more or less autonomous departments and schools to 1911 when the deanships were revived. In 1902 a semblance of the "Summer Quarter" was revived in the "Summer School" which in 1932 became the "Summer Session." Alternating between a department and a school organization since 1867, Military Science and Tactics became a division in 1911. The arrangement made in 1903 with the College of Physicians and Surgeons, Baltimore, for maintaining a University College of Medicine proved unsatisfactory. It was discontinued in 1910, and the "Medical Sciences" were offered in a department of the College of Arts and

Sciences to 1912 when the present School of Medicine was established. In 1914 a Department of Pharmacy was established in the School of Medicine. In the same year the Department of Home Economics, previously a unit in the College of Arts and Sciences, was transferred to the College of Agriculture. The Division of Agricultural Extension was organized in 1912 and the Division of Mining and Industrial Extension in 1914.

The building program inaugurated in 1917 brought additional expansions and curricular offerings. Among the former were the Engineering Experiment Station, 1921, and the School of Mines, 1926, which in 1930 became an independent unit. In 1927 the courses in education were transferred from the College of Arts and Sciences to the newly created College of Education, and in 1928 the Division of Physical Education was established. Curricular offerings were being improved meanwhile through additional and better qualified personnel. In January, 1930, the Board of Governors established a Graduate School authorized to offer graduate degrees in certain indicated fields.

The Depression (1929-35) slowed expansion somewhat, but progress was resumed in 1936 when the Department of Pharmacy was discontinued as a unit of the School of Medicine and converted into the College of Pharmacy. The next year the Division of Physical Education and the Department of Athletics were combined into the School of Physical Education and Athletics. At the same time (1937), the course in Forestry, begun in 1935 as a two-year curriculum in the College of Agriculture, was expanded to a four-year course, and the name of the sponsoring unit was changed to the College of Agriculture, Forestry, and Home Economics. In 1939 the Department of Journalism was discontinued as a unit in the College of Arts and Sciences and became the School of Journalism. The same year a Department of Art was established in the College of Arts and Sciences. In 1940 the college was further enlarged by the inclusion of a Department of Social Administration, authorized to offer a graduate curriculum leading to the professional Certificate of Social Work. In 1941 the name was changed to the Department of Social Work and in 1944 the Department was authorized to establish an undergraduate curriculum in social work leading to the Bachelor of Science Degree. In 1950 the Board of Governors authorized the degree of Master of Social Work and approved the establishment of a two-year curriculum leading to that degree. In 1944 a four-year course leading to the B.S. (Medical Technology) Degree was approved to be given jointly by the College of Arts and Sciences and the School of Medicine. In 1948 the Board of Governors approved an order authorizing the College of Arts and Sciences to offer a general course as an integral part of its curriculum and an optional lower-division program of studies. In 1951 the Department of Business Administration was discontinued as a unit of the College of Arts and Sciences and converted into the College of Commerce. The Technical Institute Program was instituted by the College of Engineering and the School of Mines in 1953.

The University has had thirteen regular presidents, nine acting presidents, and one chairman of the faculty. Together with their periods of service, they were Alexander Martin, April 3, 1867-August 12, 1875; Vice-president John Work Scott (acting), September 6, 1875-March 27, 1877; John Rhey Thompson, March 28, 1877-March 12, 1881; Vice-president Daniel Boardman Purinton (acting), March 13, 1881-1882; William Lyne Wilson, 1882-1883; Robert Carter Berkeley (chairman of the faculty), 1883-1885; Eli Marsh Turner, 1885-July 21, 1893; Vice-president Powell Benton Reynolds (acting), July 24, 1893-1895; James L. Goodknight, 1895-August 6, 1897; (from August 6 to August 10, 1897, Vice-president Robert Allen Armstrong was nominally acting president); Jerome Hall Raymond, August 10, 1897-1901; Powell Benton Reynolds (acting), March 21, 1901-July 31, 1901; Daniel Boardman Purinton, August 1, 1901-July 31, 1911; Alexander R. Whitehill (acting), August 1, 1911-September 30, 1911; Thomas Edward Hodges, October 1, 1911-August 31, 1914; Frank Butler Trotter (acting), July 19, 1914-1916; 1916-1928; John Roscoe Turner, 1928-December 31, 1934; Robert Allen Armstrong (acting), January 1, 1935-September 30, 1935; Chauncey Samuel Boucher, October 1, 1935-August 31, 1938; Charles Elmer Lawall (acting), September 1, 1938-1939; 1939-August 31, 1945; Charles Thompson Neff, Jr., (acting), September 1, 1945-1946; Irvin Stewart, 1946-.

LOCATION

West Virginia University is in Morgantown, Monongalia County, 80 miles southeast of Wheeling and 200 miles north of Charleston. The community is served by the Baltimore and Ohio Railroad (via Grafton), Capitol Airlines, three bus lines, and Routes 7, 19, 73, 92, and 119.

ACCREDITATION

West Virginia University is a member of the North Central Association of Colleges and Secondary Schools. It is accredited by the North Central Association and various professional accrediting agencies.

PHYSICAL PLANT

West Virginia University's campus comprises 74.35 acres near the center of Morgantown and approximately 260 acres of newly acquired land known as the Krepps and Dille farms. In 1951, the Monongalia County Court deeded to the University approximately 90 acres which adjoins 55 acres already owned by the University. This tract of 145 acres is the site for the new Medical Center. The first building, the Mechanical Plant, was completed in 1954, and the erection of the second building, the Basic Sciences Building, was begun in 1954. Next on the construction schedule is a Teaching Hospital and Clinic, which must be completed before the four-year medical curriculum can be installed. Much of the main campus is on high ground overlooking the Monongahela river and the surrounding countryside. The physical plant includes 47 state-owned buildings or structures on campus, five demonstration and experimental farms near Morgantown, four additional experimental farms and two agricultural extension centers located at suitable points throughout the state, a summer surveying camp for Civil and Mining Engineering students, and a summer camp for Forestry students. A new women's dormitory will be put into use in September, 1956.

Structures on the main campus, with dates of their completion or acquisition, are: Martin Hall, 1870; Woodburn Hall, 1876; Agricultural Experiment Station, 1899, present central part being the Armory from 1873 to 1888; Science Hall, 1893; Mechanical Hall, 1902; Armory, 1902; Administration Building, "Old Library," 1902; President's House, 1905; Heating Plant, 1906; Placement Office, 1914; Horticultural Greenhouse, 1915; Medical Building, 1916; Oglebay Hall, 1918; Woman's Hall, 1919; Plant Pathology Greenhouse, 1920; Law Building, 1923; old Cafeteria, in 1954, to house Department of Speech scenic shops and Buildings and Grounds tin and gardening shops, 1924; Mountaineer Field, 1925; Hall of Chemistry, 1925; Elizabeth Moore Hall, 1928; Field House, 1929; University Library, 1931; Deahl Hall, to 1948 the "University Rural High School," 1933; Wings to Woman's Hall, 1935; Men's Hall, 1935; Oglebay Annexes, 1933 and 1937; Alexander Wade School, 1939; Reynolds Hall, formerly "Commencement Hall" completed in 1893, 1940; Mineral Industries Building, 1942; University Health Center, 1942; Terrace Hall, 1942; Home Management House, 1942; Forestry Building, 1946; U.S. Bureau of Mines, formerly "Clay Laboratory," 1946; Department of Mines Stoker Laboratory, 1946; new Cafeteria, 1947; Mountainlair, 1948; Armstrong Hall, 1950; Brooks Hall, 1951; Physics Building, 1952; and the Music Building, 1954. The University acquired the nearby Krepps and Dille farms, now known as the Evansdale Campus, (260 acres) in 1948.

The farms, with dates of acquisition, are: Dairy Husbandry Farm 175 acres (1899) and 29.5 acres (1941); Horticulture Farm, 62.5 acres (1916); Animal Husbandry Farm, 321 acres (1916) and 262.5 acres (1941), including a portion for poultry husbandry; Agronomy Farm, 102 acres (1916) (6 acres donated to College of Engineering for aeroplane hangar in 1943, 15.7 acres transferred to City of Morgantown (1946) for runway extension in exchange for 52.3 acres at County Farm); total acreage of Agronomy Farm, 132.6 (1947); and Poultry Husbandry Farm, 20 acres (1916), all near Morgantown; University Experiment Farm at Kearneysville, Jefferson County. 158 acres (1930); Reymann Memorial Farms at Wardensville, Hardy County, 930 acres (1917) and 57 acres (1943); Reedsville Experiment Farm, Preston County, 457 acres (1944); Ohio Valley branch, Mason County, 150 acres (1945); Tygart Valley Farm (Forestry), Randolph County, 495 acres (1949); Camp Russell Love Morris (Engineering), Preston County, 53.5 acres (1950).

The agricultural extension centers, with dates of establishment, are State 4-H Camp at Jackson's Mill, Lewis County (1921), and the Recreation Center at Oglebay Park, Ohio County (1926).

Approximately 50 acres of mostly wooded land along the west side of the Star City Boulevard was set aside in 1948 for growing trees, wildflowers, and other plants, and for their display for students of botany, forestry, horticulture, etc., as well as for the general public. Footpaths have been constructed to provide access to various parts of the Arboretum.

FUNDS

Funds for maintaining the University, the Agricultural Experiment Station, the Engineering Experiment Station, the Mining and Industrial Extension Division and the Agricultural Extension Service are derived from the following sources: (1) interest on the land-grant endowment of $115,300; (2) Federal Morrill-Nelson and Bankhead-Jones funds; (3) biennial appropriations by the Legislature; (4) fees and tuitions of students; (5) Federal Purnell fund; (6) Federal Hatch fund; (7) Federal Adams fund; (8) Federal Bankhead-Jones research fund; (9) Agricultural Extension Consolidated; (10) Federal Clarke-McNary fund; (11) Federal Research and Marketing fund; (12) tuition of high-school students paid by Monongalia County Board of Education; (13) income derived from sale of farm and dairy products as well as income from athletics, dormitories, dining halls, book store, student activities, etc.; (14) grants by Federal agencies for special research and extension projects; (15) contribution by private benefactors for the support of scholarships, loan funds, and prizes.

GOVERNMENT AND ORGANIZATION

Direction of educational, administrative, financial, and business affairs of the University is vested in the Board of Governors. The board is bipartisan and consists of nine members who are appointed by the Governor with staggered terms of service.

The University year is divided into two semesters of approximately eighteen weeks each and a Summer Session of two terms of six weeks each.

Acting in an advisory capacity to the President and assisting him in carrying out established University policies is a *Council of Administration,* composed of the President, the Registrar, and the deans and directors of all colleges and schools, as well as other administrative officers who may be called to take part in the deliberations of the Council.

The *University Senate,* a legislative body with jurisdiction over all academic matters that concern the entire University and all matters that concern more than one college or division, is composed of the President, the Registrar, all professors, associate professors, and assistant professors in all colleges, schools, and divisions, and all heads of departments.

The *Graduate Faculty,* composed of all members who teach courses on the graduate level, sets the specific requirements and standards of quality for admission to candidacy for graduate degrees and for the award of graduate degrees.

The *Committee on Student Affairs* acts as an integral part of the whole organization of the University. Its program is bound up with that of the University as a whole, designed to serve the larger academic and social objectives of modern education. For a list of members see page 6.

Colleges and Schools

Organization of the University, together with dates of establishment of the various colleges, etc., follows:

Colleges: College of Arts and Sciences, 1895; College of Law, 1895; College of Engineering and Mechanic Arts, 1895; College of Agriculture, 1895; College of Education, 1927; College of Pharmacy, 1936; College of Commerce, 1952.

Schools: School of Music, 1897; the Summer Quarter, 1898-1900, Summer School, 1902-1931, and Summer Session, 1932; School of Medicine, 1912; School of Mines, 1926; Graduate School, 1930; School of Physical Education and Athletics, 1937; School of Journalism, 1939; School of Dentistry, 1953.

Divisions: Division of Military Science and Tactics, 1911, Division of Military and Air Science and Tactics, 1949; Division of Military Science and Tactics and Air Science, 1955; Division of Forestry, 1937; Divsion of Home Economics, 1937.

Experiment Stations and Research Bureaus: Agricultural Experiment Station, 1888; Engineering Experiment Station, 1921; Government Research Bureau, 1931-1935, 1949; Business Research Bureau, 1949.

Extension Service: Agricultural Extension, 1912; Mining and Industrial Extension, 1914; Extension in Education, 1915; Liberal Arts Extension, 1916; University Extension, 1930.

The College of Agriculture, Forestry, and Home Economics; the College of Arts and Sciences; the College of Engineering and Mechanic Arts; the College of Pharmacy;

the School of Mines; the School of Music; and the School of Physical Education and Athletics are all degree-granting units admitting freshmen. The College of Education, the College of Law, the School of Journalism, the School of Medicine, and the School of Dentistry are professional colleges and schools requiring from two to three years of academic training as a foundation for professional work. All graduate instruction is administered by the Graduate School and the Graduate Faculty.

A full description of the organization and offerings of the colleges and schools of the University is found in Part II of this *Catalog*.

Summer Session

The fifty-ninth Summer Session of the University will be held from June 10 to August 28, 1957. The session will be made up of two terms of six weeks each.

University High School will be in session the first nine weeks for secondary-school student teaching, practice supervision, and observation. The University Laboratory Elementary School also will be in session during the first six weeks for elementary school observation and practice supervision.

Requirements for admission and character of the work offered are the same for the Summer Session as for the regular academic year.

Credit may be obtained towards the Bachelor's and Master's Degrees in most of the departments and toward the Doctorate in some departments. Offerings are varied from summer to summer so that students may complete the work for the Master's Degree by attending summer sessions only.

For complete description of courses, see the *Summer Session Bulletin*.

Evening Education

The University offers a program of evening classes for the benefit of those who wish to continue their education beyond the high-school level and who are unable to attend the usual day classes.

All courses are taught by resident faculty members and carry full college residence credit. Many of these courses may be counted toward advanced degrees.

Division of Military Science and Tactics and Air Science

Requirements

West Virginia University, a beneficiary of the Act of Congress of 1862, offers in time of peace, four-year courses of instruction in Military Science and Tactics and Air Science. Successful completion of one of these courses leads to a commission as Second Lieutenant in the United States Army Reserve, or the United States Air Force Reserve. Distinguished Military Graduates of West Virginia University may apply for and be offered commissions as second lieutenants in the Regular Army or the Regular Air Force, under conditions prescribed by law.

The course comprises two years of basic training (Military Science 1, 2, 3, and 4, or Air Science 1, 2, 3, and 4), two years of advanced training (Military Science 105, 106, 107, and 108, or Air Science 105, 106, 107, and 108), and summer camp for six weeks duration for Military Science students and four weeks summer training for Air Science students during the summer following the junior year. The Army summer camp and Air Force summer training is conducted at government expense, and eligible students are paid $78 monthly in addition to traveling expenses at the rate of 5 cents per mile.

All male students not specifically exempt by provisions of the appropriate paragraph below are required by chapter eighteen, article eleven, of the official code of West Virginia, and by orders of the Board of Governors of the University, to complete satisfactorily the entire course as prerequisite to graduation from the University.

Within deferment quotas established by Public Law 758, 80th Congress, qualified and selected enrolled students are offered the opportunity of being deferred by the Professor of Military Science and Tactics or Professor of Air Science from military service under the Selective Service Act of 1948 and Selective Service Extension Act of 1950, as amended by the Universal Military Training and Service Act, November, 1951, as amended, until completion of their military courses, and receipt of their Bacca

laureate Degree. Such deferment is subject to cancellation should the student not be selected for the advanced course, fail to remain in good standing, or to develop the qualities expected of an officer.

Curriculum

Basic instruction is given for three hours per week throughout the two semesters of each school year. Two hours' credit is allowed for each semester's work.

The third and fourth years of instruction in Military Science and Air Science, corresponding to the junior and senior years of the student, comprise the advanced course and are entirely elective on part of the student and selective on part of the Professor of Military Science and Tactics and Professor of Air Science. Application for advanced training should be made at the beginning of the second semester of the student's sophomore year.

Enrollment in the advanced courses, Army ROTC or Air Force ROTC, is elective on the part of those students who may be selected by the President of the University and the Professor of Military Science and Tactics or the Professor of Air Science, under regulations prescribed by the Secretary of the Army or the Secretary of the Air Force. Each student who shall have enrolled in either advanced course shall complete that course and, if tendered, accept a commission in a reserve component of the Army or Air Force upon completion of the course as a prerequisite for his graduation from the University, unless he is excused from this requirement by the authority of the Secretary of the Army or the Secretary of the Air Force.

All Army advanced course military science students follow the same curriculum on the basis of five hours per week. Assignment to branch of Army ROTC students is made by the Department of the Army during the fourth year of instruction based upon the preferences of the student, his personal qualifications, civilian occupational and military experience, academic curriculum pursued, and the needs of the Army. Three hours' credit is allowed for each semester completed.

Advanced Air Science students follow a common course of instruction for all students on the basis of five hours per week. Three hours' credit is allowed for each semester completed.

Students with twelve months or more of previous honorable active service are eligible to apply for enrollment in the Army advanced course immediately upon entrance into the University for the fall semester of their junior year. Students with less than twelve months service, but more than six, will be eligible to apply for enrollment in the advanced course only upon completion of Military Science 3 and 4. Students with prior service desiring to enter Advanced Air Science must have their status as to enrollment determined by the Professor of Air Science at the time of initial enrollment in the University.

Allowances

Commutation of subsistence, in the amount of the current value of the field ration ($0.90 per day during the Fiscal Year 1956), will be paid monthly to each student taking the advanced course. In addition, uniforms, equipment, and textbooks are furnished all military and air science students by the government.

Military Deposit

Each student is financially responsible for all government property he is issued. A deposit of $10 will be given to the Comptroller, at time of registration, to cover any loss or damage to Government property while in his possession. This deposit, less a nominal administrative charge, will be refunded upon return of the undamaged property.

Exemptions

The following students will not be required to enroll in the Division of Military Science and Tactics and Air Science but may elect to do so with the approval of the Professor of Military Science or the Professor of Air Science:

(1) Those who are not citizens of the United States.
(2) Those who, at time of entrance, are more than 23 years of age, and former students over that age who re-enter the University after an absence of three years.

(3) Graduate students.
(4) Students who are taking only the short course, the special interim courses, or extension work.
(5) Students who at time of matriculation have successfully completed not less than 58 hours of work, and all who have completed the two-year basic Army ROTC or Air Force ROTC course at an institution maintaining a senior division unit. Those who have satisfactorily completed one, two, three, or four semesters in a senior division will be allowed comparable credit. Students who have had previous training, other than in a senior division ROTC unit, or service will be allowed credit as determined by the Professor of Military Science and Tactics or the Professor of Air Science and the Registrar of the University.
(6) Students who are unable to perform military duty for physical reasons.

Exemptions will be determined by the adviser from the student's records and from recommendations of the Director of the Student Health Service.

Students with one year or more previous honorable active service are exempted from taking basic military training (i.e., Military or Air Science 1, 2, 3, 4). Students with more than six months but less than one year's service are exempted from taking the first year of basic military training (i.e., Military or Air Science 1, 2). Note curriculum in connection with advanced course work.

Organization

The Division of Military Science and Tactics and Air Science and the conduct of military science and air science instruction is the responsibility of the Professor of Military Science and Tactics, and Professor of Air Science who, together with their military staffs, are officers and non-commissioned officers of the Army and Air Force, appointed by the Department of the Army and Department of the Air Force for duty at West Virginia University.

Reserve Officers Training Corps Bands

There is an Army ROTC Band and an Air Force ROTC Band. Membership is restricted respectively to basic Army and Air Force ROTC students. Assignment to one of the bands is determined by audition before the Director of the Band.

LIBRARY

The Library's function is to provide books and related materials for teaching, research, and cultural purposes. It endeavors to maintain well-balanced collections in all subject fields included in the curricula of the University. Although primarily intended to supply the needs of the faculty and students of the University, the collections are available to any resident of West Virginia through the Library Extension Service Department, which also borrows books from other libraries for the use of Faculty members and properly accredited graduate students, and makes loans to other institutions. Facilities are available for the reproduction of material by microfilm and photostat.

The Library's total general holdings include over 300,000 books and government documents, 23,000 maps, 10,000 pamphlets and other uncataloged items, and 4,100 reels of microfilm. About 2,000 periodicals are received currently. The West Virginia Collection contains approximately two million pieces consisting of manuscripts, books, papers, and county court records relating to the history and development of the State. The Audio-Visual Department has about 1,400 educational motion-picture films and 400 filmstrips available to members of the University and to groups throughout the state, and a collection of 2,500 musical and speech recordings for campus use. The Law Library, housed in the College of Law, contains approximately 56,000 volumes.

During regular sessions, except on holidays and vacations, the Library is open from 7:55 A.M. to 10:00 P.M., Monday through Friday; from 7:55 A.M. to 5:00 P.M. on Saturday; and from 2:00 P.M. to 5:00 P.M. on Sunday. During the Summer Session the weekday hours are from 7:55 A.M. to 9:00 P.M.; and only the Reserve Collection is available on Sunday from 2:00 P.M. to 5:00 P.M. During periods when the University is not in session, the hours are from 9:00 A.M. to 5:00 P.M., Monday through Friday; 9:00 A.M. to 12:00 noon on Saturday; closed all day Sundays and holidays. Alterations in scheduled hours are posted in advance.

University Extension

The work of this division is under the general supervision of the Director of University Extension. The work given in extension courses corresponds in every particular to that given in the same courses on campus. Students taking extension courses for credit must satisfy all requirements for admission to the University and, before registering, must file with the Registrar of the University complete official transcripts of record.

The maximum undergraduate credit that may be counted toward any degree for extension work conducted by the University is 48 semester hours. The maximum undergraduate credit that may be counted towards a degree for extension work taken in other institutions is 30 semester hours. No more than 15 hours of work taken in graduate extension courses may be counted towards any degree, and of these only 8 semester hours may be in one field. Education majors are limited to 12 semester hours that may be counted toward the completion of the Master's Degree. No more than 8 of these hours can be taken in extension prior to earning 6 hours in Education in residence in the University. For other regulations on graduate extension for Education majors see the *College of Education Announcements* or the Education section of the *University Catalog*.

No University extension courses may be offered for credit without the approval of the Director of University Extension. Library and laboratory facilities for each course must be approved by the Director and, in case of courses for graduate credit, by the Dean of the Graduate School. Reference books for the use of extension students may be borrowed from the University Library upon the order of the Director of University Extension, subject to the approval of the Library Committee. Postal charges must be paid by the individual or groups for whom the books are borrowed.

A fee of $8 per semester hour is charged for each extension course offered.

For further information write to the Director of University Extension.

Guided Reading Course—Correspondence

The Extension Division of West Virginia University offers six reading courses through correspondence. While these courses are offered in cooperation with the West Virginia Federation of Women's Clubs, any adult may enroll for any of these courses by applying to the Director of University Extension. The fee is $1 per course. The reader sends in short reports on the books he reads in each course. When the course has been satisfactorily completed, a progress card from West Virginia University Extension Division is awarded. These courses carry no University credit but are designed to provide adults with some of the best reading materials in the areas covered through this program. At present the courses include:

1. World Affairs
2. Modern America
3. Psychology for Everyday Living
4. Happy Family Relationships
5. Novel and Biography
6. Ideas in Conflict

University Book Store

The Book Store, located on the ground floor of the Law Building, is owned and operated by the State. The objective of the Book Store is to supply the student with everything required of him in connection with his University work at the lowest practical cost to him.

The Book Store (1) sells new and used textbooks; trade books (general and non-technical); general school supplies, and stationery items; office supplies; medical and engineering instruments and supplies; physical education equipment; University stamped and seal items such as stationery, T-shirts, jackets, sweat shirts, book ends, souvenir and gift merchandise; (2) buys used books from students for cash; (3) maintains a mail-order service for extension students and alumni. Orders for books or supplies will be filled when prepaid, or shipped COD.

Cafeteria

The Cafeteria is open for three meals daily except Saturday and Sunday. Dinner is not served on Saturday except on special occasions such as Homecoming Weekend and

Greater West Virginia University Weekend. Only the noon meal is served on Sunday.

The Cafeteria observes all University holidays, and opens and closes with the University schedule.

ASSOCIATED INSTITUTIONS

West Virginia Academy of Science

Organized in 1924 to bring about closer affiliation among scientists of the state and to encourage the pursuit of scientific work throughout the commonwealth, the West Virginia Academy of Science is a body of nearly five hundred men and women who are interested in the service of science in development of the state. Members are widely distributed throughout West Virginia and adjoining states and are representative of colleges, high schools, and industries. A Collegiate Academy and a Junior Academy are sponsored by the Senior Academy. Annual meetings, held at the various institutions of higher learning, are divided into sections on biology, chemistry, geology and mining, mathematics and physics, education, psychology and social sciences. The *Proceedings* of the annual meetings are published under the auspices of the University and the Academy.

West Virginia Geological and Economic Survey

The West Virginia Geological and Economic Survey, situated at West Virginia University, is governed by its own commission and receives separate appropriations.

The Geological Survey was founded by an Act of the Legislature in 1897 and has functioned consistently since that date. It is recognized as one of the leading state surveys.

One of the major purposes of the Survey is to have members of its staff, specialists in their field, investigate all natural resources, and especially mineral resources, of the state and make results of the investigations available to the public in the form of written reports and maps.

Accomplishments of the Survey include complete topographic mapping on 1-mile-to-the-inch quadrangles; complete geologic mapping of the state by counties, and a state geologic map; complete mapping of the soils of the state by counties; and the state relief map (scale 1 inch equals 4 miles).

Numerous special reports also have been made on coal, oil, gas, clays, limestones and cement, iron ores and building stone, mineral springs, manganese, deep-well records, salt brines, rock salt, caverns and forest and wood industries.

The professional staff of the Survey is composed of eight geologists, a petroleum engineer, two chemists, and a spectroscopist. There is close cooperation between the survey and the Department of Geology of the University. Two geologists from the U.S. Geological Survey are assigned here for cooperative studies on ground waters. The large collection of well cuttings on file brings many petroleum geologists here to study them.

Government of the Survey is vested in the Geological Survey Commission, composed of the Governor of West Virginia, the State Treasurer, the Commissioner of Agriculture, the President of West Virginia University, and the Director of the Agricultural Experiment Station.

West Virginia Biological Survey

The West Virginia Biological Survey is an organization of voluntary workers whose purpose is the collection of information of every kind about the plants and animals of the state.

The executive committee consists of a biologist from each of the colleges of the state with a chairman, secretary, and curator. There are no dues, and membership is open to all persons interested in the work of the Survey.

The repository for plant and animal collections is in Brooks Hall, West Virginia University, Morgantown, and Marshall College, Huntington. Under direction of the Survey a series of publications dealing with biology of the state is being published.

The Survey, in cooperation with Carnegie Museum, Pittsburgh, Pennsylvania, during several summers has maintained one or more field collectors whose work has taken them into all parts of West Virginia. An increase in knowledge of biological conditions in the state has resulted from this work.

State Road Commission

The Materials Laboratory of the State Road Commission is housed in Mechancial Hall of the University. Its work includes testing of all materials used by the Commission and also research on problems of road construction and maintenance in West Virginia. The State Road Commission and the College of Engineering cooperate on research and development programs.

UNIVERSITY PUBLICATIONS

The following publications are issued regularly at the University:

1. The *West Virginia University Bulletin,* issued monthly during the year. The series includes the *Catalog* of the University and the *Announcements* of the various colleges and schools as well as other occasional publications.
2. The bulletins and circulars of the Agricultural Experiment Station.
3. The circulars of the Agricultural Extension Service, including *Farm Women's Club* leaflets, 4-*H Suggestions, Treasures of the Trail,* and special pamphlets.
4. Agricultural News Service bulletins published weekly by the College of Agriculture.
5. The bulletins of the Engineering Experiment Station and of the School of Mines.
6. The *West Virginia Law Review,* official publication of the West Virginia Bar Association, edited by the faculty of the College of Law.
7. Miscellaneous publications under the title of *Philological Papers* or *Biological Studies.*
8. *The Student Directory,* annual directory of the student body, published by the University Book Store.
9. The annual *Proceedings* of the West Virginia Academy of Science.
10. The West Virginia *Fourth Estatesman,* a quarterly publication edited by the faculty of the School of Journalism.

UNIVERSITY LIFE

STUDENT WELFARE

Director of Student Affairs

The activities of student welfare are under the administration of the Director of Student Affairs. The Director's office is on the second floor of the Administration Building.

Dean of Women

All interests of women students in the University are in charge of a special executive officer of the University, the Dean of Women. The Dean's office is on the main floor of Elizabeth Moore Hall.

Eligibility for Activities

To be eligible to represent the University in public appearances, a student must be enrolled in the University and must meet the eligibility requirements of the department or school in which the activity originates. The records of those students whose status is questionable should be checked at the Registrar's Office before participation. This checking should be done by the department or school in question.

To hold an elective or appointive office in any duly recommended student organization, a student must be enrolled in the University for at least 12 semester hours and, if in other than his or her first semester in residence, must have maintained a minimum average of "C" the last previous semester in the University.

The rules and the policies of the Southern Conference govern participation in intercollegiate athletics.

Student Government

University Student Government was reorganized in 1952 under a new constitution providing for three separate departments of governmental activity: the Student Legislature, the Student Executive Council, and the Student Court.

The Legislature, composed of elected representatives from all colleges and schools, determines policy and exercises control over all student activities proposed by the Executive Council, the administrative body which includes the president and vice-president of the student body, and the president and vice-president of each class. The Court, composed of seven students, handles constitutional revisions and controversial issues of the Legislature and Executive Council.

Student Government sponsors many educational and entertaining activities, and coordinates the work of its committee system and of various campus organizations. Besides providing valuable experience in democratic self-government, Student Government represents the student body with the faculty, administration, and off-campus groups.

Associated Women Students

All women students of the University are members of Associated Women Students. The purpose of this association is to regulate all matters pertaining to the student life of its members; to further in every way a spirit of friendliness and unity among the women of the University; to increase their sense of responsibility; and to be a medium for maintaining high scholastic and social standards.

Responsibility for directing the work of the Association rests with the Executive Council, which is composed of the following members: a president, two vice-presidents, a secretary, a treasurer, and a representative from each class. The officers are elected annually by the Association. To be eligible for membership on the Executive Council, a woman must have no less than a "C" average in all her work.

In 1921 the Association was admitted to active membership in the intercollegiate Association of Student Government for Women Students.

Mountainlair

Mountainlair, the student center, was opened on May 14, 1948, to provide members of the University with a general recreational center.

Mountainlair is a remodeled Navy recreation building, situated at the Northeast end of Mountaineer Field. It contains a large snack bar, four bowling alleys, a lounge with newspapers and magazines, meeting rooms, office space, and a huge ballroom used for such activities as table tennis, badminton, shuffleboard, billiards, dances, and special student functions. A smaller upstairs ballroom is used for small dances, movies, style shows, banquets, etc.

The Mountainlair Swimming Pool was opened in August, 1951. The pool is 42 by 75 feet, the regulation intercollegiate size. Adequate recreational swimming hours are provided for all persons having a Mountainlair identification card.

The Mountainlair staff devotes its full time to making a pleasing atmosphere for students' recreation and to setting up an adequate program designed to fit many individual needs of students on campus. The activities at Mountainlair are planned by the students with the coordination of a Social Director.

The building is open from 7:30 A.M. to 10:30 P.M. Monday through Thursday, 7:30 A.M. to 11:30 P.M. Friday and Saturday, and 2:00 P.M. to 10:30 P.M. Sunday.

LIVING ACCOMMODATIONS

The University maintains three dormitories, one for men and two for women. For information as to accommodations and rates, address the office of the Director of Residence Halls.

The following rules are in effect:

No student will be permitted to live in other quarters until after Men's Hall and dormitories for women are fully occupied.

In assignment of rooms in these buildings all freshmen shall be required to take rooms therein, no freshman being allowed to live outside the dormitories if there is room in them.* In enforcing the above rules the following exceptions shall be made:

(1) When the parents or legal guardians of students reside in Morgantown or within commuting distance of the University, these rules shall not apply.

*In dormitories for women, rooms are assigned to freshmen, sophomores, juniors, and seniors.

(2) When the home of the student is within such distance that it is entirely practicable for him to live in his home and reach the University by car or otherwise for all his classes, these rules shall not apply.

A student who does not claim exemption for the fall semester to live with relatives, cannot claim exemption for the second semester unless the parents in the meantime have moved to Morgantown.

(3) When students above the rank of freshman reside in approved sorority or fraternity houses under the supervision of the Director of Student Affairs and the Dean of Women, these rules shall not apply.

(4) When conditions of employment (such as firemen in various buildings and homes, employment on dairy and experimental farms, etc.) require residence on the premises, these rules shall not apply. Students so employed should not request dormitory reservations.

When space is needed for underclass women, no senior sorority woman will be permitted to live in Woman's Hall if there is room for her in her sorority house.

Because of the shortage of dormitory space, rooms are assigned only to students whose homes are in West Virginia. Assignments are for the entire academic year. Students cannot be released at the end of the first semester to live elsewhere.

More detailed information may be found in the Residence Halls Bulletin, a copy of which will be furnished by the office of the Director of Residence Halls.

Board and lodging for women graduate students is available in private dwellings in Morgantown. Board and lodging for men also is available in private dwellings. Men may secure information concerning living accommodations in town by visiting the Information Desk, Administration Building (first floor). Women may secure information concerning approved living accommodations in town by visiting the Dean of Women, Elizabeth Moore Hall. Arrangements for renting a room must be made in person with the landlady or landlord.

PHYSICAL EDUCATION AND ATHLETICS

General Program for Men and Women

Two hours of physical education for men, P.E. 1 and 2, to be taken during the first year in residence; and four hours of physical education for women elected from P.E. 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, or 18, to be taken during the first and second year in residence, are required for graduation of students presenting fewer than 58 hours unless previous credit has been allowed. Upper-division women students who wish to elect a Physical Education course or who have not completed the Physical Education requirement should select from P.E. 101 and 102.

Each student who is required to register for physical education is given a complete medical and physical examination at the beginning of the University school year to determine his fitness for active participation in University activities of any description. See Part II for more extended information on the course offerings of these departments.

Intramurals

A broad intramural sports program for men and women is provided by the School of Physical Education and Athletics. It is the aim to encourage all students of the University to participate in organized athletic sports and wholesome active recreation. Competition is promoted between student groups and individuals. Such natural groupings as classes, fraternities, sororities, dormitories, and other nonfraternity units form the basis for activities in competitive sports.

The following activities are conducted for men in the Intramural program: speedball, tennis, volleyball, handball, basketball, swimming, relays, golf, bowling, basketball free throwing, softball, horseshoes, and outdoor track. Other activities may be organized when there is sufficient interest on the part of students and when facilities permit. Leagues are organized to accommodate fraternities, dormitories, and nonfraternity groups.

The following activities are conducted for women: horseshoes, volleyball, badminton, swimming, basketball free throwing, bowling, softball, archery and tennis. Interclass tournaments for Physical Education majors are held in the following activities: volleyball, badminton, basketball, swimming, tennis, and softball. As the demand for more activities develops, the facilities will be increased and the program broadened

INTERCOLLEGIATE ATHLETICS

Basic Objectives

The basic objectives of Intercollegiate Athletics at West Virginia University are:

1. To provide an opportunity for students highly skilled in athletic sports to develop their ability as a preparation for coaching positions, as teachers of physical education, and for their own physical, social and emotional improvement.
2. To develop an understanding and an appreciation of the place which intercollegiate sports occupy in American culture and to develop sound, educational attitudes toward sports.
3. To educate the student body in the appreciation of sports and the best way to enjoy them from the point of view of good sportsmanship.
4. To serve as a focal point for the morale, spirit and loyalty of the students of the University, by providing a common meeting ground and enthusiasm which is shared by all.
5. To provide a wholesome program of sports in which students, alumni, and friends of the University may share to the end that loyalty of these groups to the University and its work may be constantly renewed, strengthened, and united.

Additional Objectives

Additional objectives of the Intercollegiate Athletic program are:

1. To set desirable examples of good physical skill, team play, sportsmanship, health habits, and other characteristics that go with skilled sports, both individual and team.
2. To provide a living laboratory of democracy in action, where all players are treated without favor or prejudice, to learn to respect the rights of others, obey the rules, and judge others for what they can do.
3. To broaden the social experience of players and spectators, through travel, visiting other schools, and making the acquaintance of other young people of similar age.

Administration

Activities of the Department of Intercollegiate Athletics are administered, under the President of the University, by the Director of Intercollegiate Athletics and by the Athletic Council. The council is composed of eight members: four faculty, two alumni, and one student. The Dean of the School of Physical Education and Athletics serves as a member, and the Director of Athletics is the executive officer.

Instruction and training are given each year in the seasonal sports such as football, cross-country, basketball, wrestling, baseball, swimming, gymnastics, track, tennis, rifle, and golf. Matters concerning athletic eligibility regulations are decided by the Athletic Council and scholastic eligibility regulations are established by the faculty of the University.

THE UNIVERSITY HEALTH SERVICE

The University Health Service, which is a part of the organization of the School of Medicine, is maintained to provide medical care to students of the University and to supervise general health conditions on campus. The staff includes two full-time and three part-time physicians, six nurses, laboratory technicians, and clerical personnel. The University Pharmacy, housed in the Health Center, is managed by the College of Pharmacy. The Departments of Pathology and Bacteriology cooperate in the laboratory examination of diagnostic materials.

The Health Service occupies a well-designed University Health Center constructed in 1942. This three-story building is centrally located on campus, fronting on College Avenue adjacent to Reynolds Hall. It is built of brick and concrete and is fireproof throughout. On the first floor are the treatment rooms, offices, and pharmacy. The second floor is occupied by laboratory and X-ray departments, together with the Department of Pathology. The third floor contains a well-equipped infirmary.

The Health Service is in operation from 8:00 A.M. to 5:00 P.M. daily except Saturday and Sundays. Saturday hours are 8:00 A.M. to noon. Physicians are in

attendance from 9:00 A.M. to 12:00 M. and 2:00 P.M. to 5:00 P.M. A nurse is present at all times in the Infirmary, and a University physician can always be reached by calling the Health Service, Extension 323 on the University exchange.

Each regularly enrolled University student pays a fee which provides for medical consultation and advice from University physicians. Moderate additional charges are made for room calls, X-rays, laboratory tests, minor operations, treatment of fractures, and drugs furnished by the Health Service or Pharmacy.

On his first enrollment in the University a student receives a complete physical examination which includes a blood test and urinalysis. The Health Service also gives special physical examinations to students in competitive athletics, to University food handlers, to employees of the Buildings and Grounds department, and to other groups as occasion may arise.

University Infirmary

Students who need bed care for medical illness are hospitalized in the University Infirmary. The Infirmary is open only to full-time students of the University. It is the policy of the Health Department to have all students requiring such care in the Infirmary, and they will not ordinarily receive continued care elsewhere. Students hospitalized in the Infirmary are under the care of Health Service physicians, although other qualified physicians may be seen in consultation when necessary. Patients will be admitted and discharged on the order of Health Service physicians.

Upon admission to the Infirmary the student receives two days of hospitalization without charge except for laboratory, X-ray, special medications, and private duty nurse fees. No additional charge is made for general nursing care, dressings, routine medications as commonly supplied by the Health Service, and food as ordered by the physician in charge. Laboratory examinations, X-rays, penicillin, and similar medication will be charged at the usual Health Service rate to students. Special nurses, when necessary, are at the expense of the student.

A student may not receive more than thirty days hospitalization for any one illness. Patients are to leave when discharged by the University physician. When it becomes evident that a student's illness will be so prolonged as to prevent his completing work of the current semester, he may be discharged from the Infirmary when the attending physician or the Director of the Health Service considers that he may be moved without undue danger to his health. The services as indicated above are subject to the availability of space in the Infirmary. Twenty-two beds are at present ready for use.

Speech and Hearing Rehabilitation Clinic

The Speech and Hearing Rehabilitation Clinic, which is operated under the direction of the Department of Speech, offers services to all students of the University in need of treatment for various types of speech disorders such as stuttering, cleft palate, aphasia, spasticity, deafness, hard-of-hearing, etc. All work is in charge of a professionally trained and fully qualified speech clinician who has been certified for this type of work by the American Speech and Hearing Association. The clinic is located in the specially designed set of rooms which permit private as well as class instruction, the use of soundproof cubicles, modern equipment for diagnosis and therapy, and opportunities for supervised and directed help in overcoming speech handicaps.

UNIVERSITY ACTIVITIES

Social

Student social life in the University is a carefully planned and supervised part of a student's life on campus. It is guided in such a manner as to offer a wholesome type of pleasure without curbing the institution's main purpose . . . education of the student body.

All social life is under general supervision of the University Social Committee. The committee has supervision of every social function given by the University or by an organization within it, including fraternities, sororities, and other student societies.

The social program is highlighted during the year by Homecoming Weekend, Mountaineer Weekend, and Graduation Week. The Homecoming Parade held during

Homecoming Weekend is an annual tradition. Homecoming Dance, of course, is the climax of the celebration. Mountaineer shenanigans on a special fall weekend, set aside by the students is the most newly established annual affair. Mountaineer garb, in its truest fashion, prevails at all activities for the two-day program, including classes on Saturday morning. Mountaineer music, hayseed hoedowns, and other attractions provide everyone with a gala time.

The outstanding social event of Graduation Week is the Senior Ball which brings the undergraduate's social life to a climactic end.

Other major dances include the Military Ball, Engineers' Ball, and Gold-diggers Ball.

Aside from these major social attractions, there are many others scheduled for weekends throughout the year. A number of these activities are sponsored by individual organizations; some have a limited attendance and others are all-campus affairs.

SOCIAL CENTER FOR WOMEN

On the upper campus, opposite Reynolds Hall, is Elizabeth Moore Hall, named after the preceptress at the former Woodburn Female Seminary. The building provides for social, recreational, and physical education facilities for women students. The building is so arranged that facilities for social gatherings constitute a separate unit.

Cultural

The University, through the Committee on Convocations and Public Exercises, provides appropriate and desirable programs for students. The convocations form the basis of the cultural program, but there are others sponsored by various divisions of the University and community.

Convocations consist of addresses by distinguished speakers, and musical and other entertainment features of special merit.

During the year students have an opportunity to attend their own legitimate theatre in which plays are presented by the Speech Department. University Radio Theatre is also an activity of the Speech Department.

The University-Community Symphony Concert, individual recitals, and glee club concerts are sponsored by the School of Music.

The Community Concert Series is another fine opportunity afforded to students.

A broad student fellowship program is available at the many churches in the community and a special week is set aside annually as Life Week to emphasize the religious phase of student life.

Greater West Virginia University Weekend makes a number of cultural activities available to students and their visiting parents. A modern dance recital, music recitals, religious services, and educational scientific exhibits are of the highest value.

Forensic Activities

The University maintains a complete forensic program under sponsorship and direction of the Department of Speech. Intramural and intercollegiate activities in debate, oratory, and extemporaneous speaking are included. Speech tournaments, trips, and tours, as well as campus contests, make up the program. Participation may lead to membership in Delta Sigma Rho, national honorary forensic fraternity, and is open to any regularly enrolled student in the University.

University Players

The University Players, sponsored by the Department of Speech, presents a full program of major productions, open to the public, each year. In recent years such plays as *Goodbye, My Fancy; Our Town; Midsummer Night's Dream;* and *Room Service* have been given. A program of one act plays performed in the studio theatre atmosphere is produced each year by students enrolled in theatre courses. Tryouts for casts of all plays are open to any regularly enrolled student in the University. Membership in Alpha Psi Omega, national honorary dramatic fraternity, may be earned by superior work in such productions.

University Broadcasting

Broadcasting of radio programs to the people of West Virginia was established at the University in May, 1938, when Station WMMN, Fairmont, began a series of noncommercial programs originating on the campus. All are of an educational, informative, or entertaining nature. In addition to these programs, special events have been broadcast regularly by a group of West Virginia stations as well as by stations in other states.

The University is prepared to open its doors to all West Virginia stations that wish to broadcast special campus events.

University Radio Theatre. The University's broadcasting facilities are housed in the Administration Building and their use is under the supervision of the Department of Speech. Facilities include studio and control room fully equipped for broadcasting except for the lack of a transmitter. At present the University has no permit for a transmitter. However, the Department of Speech produces fifteen-minute and half-hour tape-recorded broadcasts participated in by students and faculty for release to radio stations throughout the State.

Radio Journalism. Students in the School of Journalism study radio to become proficient in use of radio as a news medium.

RELIGIOUS FOUNDATIONS AND ASSOCIATIONS

Foundations

As at most state university centers, various state and national church boards have established foundations at West Virginia University for the religious education and nurture of students. The churches of Morgantown extend a warm welcome to students of all faiths. The physical plant and equipment of each church is available for social, educational, and recreational activities of students.

The Baptist Student Fellowship headquarters are at the Baptist Student Center, 640 N. High Street, under the direction of the Rev. Elmer E. Dierks, student pastor. The program includes participation in Bible School, worship services of the church, B.S.F., and service in mission churches in nearby districts. Student activities are democratically organized and depend in large measure on student initiative and leadership.

Newman Hall, 1481 University Avenue, is the social and religious center established by the West Virginia Diocese of the Roman Catholic Church for students of that and other faiths. Rev. Eugene Schmitt is the resident chaplain. Newman Hall is a beautiful building of English collegiate architecture immediately adjacent to the campus. It is equipped with dormitory facilities for twenty students and also includes a chapel, dining room, lounge, game room, and library.

The Disciple Student Foundation provides a program for Christian Church students attending West Virginia University. The Foundation is sponsored by the Department of Religious Education of the United Christian Missionary Society (Indianapolis, Ind.), the West Virginia Christian Missionary Society (Huntington, W.Va.), and the First Christian Church of Morgantown. These three agencies function through a Student Work Advisory Committee. The First Christian Church is the center for Foundation activities and is located at 447 Spruce Street. The Rev. Benton Roy Hanan is director of the Foundation and pastor of the Church.

Trinity Church, Spruce Street, is the center for student work sponsored by the Diocese of West Virginia of the Protestant Episcopal Church. This work is under the direction of the rector, Rev. Edwin G. Bennett. The program includes corporate student worship services and meetings of the Canterbury Club, which is one of the National Association of Canterbury Clubs, for discussion and fellowship. Canterbury Club meets in Strider Hall, which is located on the ground floor of Trinity Church.

The Hillel Foundation at West Virginia University, 1420 University Avenue, represents the combined efforts of the West Virginia B'nai B'rith Lodges and of the National B'nai B'rith Hillel Foundation to bring the University's students together in religious, cultural, and social activities. Prominent lecturers and speakers are featured at regular intervals by the Foundation for the members of the group and for the general student body.

St. Paul's Lutheran Church is the center of Lutheran student activities sponsored by the Student Service Commission of the National Lutheran Council, the Synod of West Virginia, and St. Paul's Lutheran Church. This work is under the direction

of the Rev. W. Roy Hashinger, local pastor. The program includes regular services of the church and activities of the Lutheran Student Association.

Wesley Foundation is housed in the Wesley Youth Center at 503 High Street and provides a worship and activities center for Methodist students in the University. Complete facilities for recreation, feeding, drama, and various religious meetings are provided as an integral unit of Wesley Methodist Church. The students are organized into a working cabinet, and carry forward a religious education program consisting of worship, study, fellowship, community service, mining camp missions, and other extension activities. The program is under the direction of Dr. Thomas LeRoy Hooper, pastor of Wesley Church, and the Rev. Harold Elmore, assistant director of the Foundation. The Foundation sponsors Kappa Phi, Methodist Women's sorority, and Sigma Theta Epsilon, Methodist men's fraternity.

The Westminster Foundation of West Virginia represents the cooperative efforts of the Boards of Christian Education and National Missions of the Presbyterian Church, U.S.A., the Synod of West Virginia of the Presbyterian Church, U.S., and the Presbytery of Winchester, to make the Christian religion a vital factor in the experiences of students and in the relationships which these students sustain while in the University; and also, through guided Christian activities in the mine-camp communities surrounding Morgantown, to train among educated men and women future Christian statesmen. The Rev. Wm. C. Swartz, 331 Forest Avenue, is the student pastor and director.

Other churches, while not having special buildings or workers for University students, make definite contributions in ministering to the religious and social needs of University students who belong to their particular faiths. It should be stated in this connection that college students are welcome in all of our churches regardless of what their church affiliations may be.

Associations

The Young Men's Christian Association of West Virginia University is a nonsectarian fellowship of students and faculty united in the desire to encourage personal and social development in the light of religious principles. The Young Women's Christian Association is a nonsectarian fellowship of women of the University organized for the purpose of promoting and directing widely varied activities through a religious motive. Both Associations are affiliated with their national and international bodies and with the World Student Christian Federation.

Student officers, student cabinets, boards composed of students, faculty, and townspeople, and an executive secretary direct the activities. The various committees, interest groups, and commissions provide not only their immediate ends, but also opportunity for fellowship and leadership training. The Y.M.C.A. office is located on the third floor of the Administration Building and the Y.W.C.A. office is located on the second floor of Elizabeth Moore Hall. Mrs. JoAnn Richardson is executive director of the Y.W.C.A.

MUSICAL ORGANIZATIONS

Women's Glee Club

The Women's Glee Club is open to all University women who can sing a part acceptably. The organization affords an opportunity for women students to become acquainted with the best in choral literature, both classic and contemporary. It performs for various University functions in addition to presenting concerts both on and off campus.

Men's Glee Club

The Men's Glee Club is open to all University men who can satisfactorily sing a part. Concerts are given several times through the school year on campus as well as out of town.

University-Community Mixed Chorus

The University-Community Mixed Chorus is open to all University students who can satisfactorily sing a part. Concerts are given several times through the school year. This organization offers opportunity for the study of much choral literature.

The University-Community Symphony Orchestra

The University-Community Symphony Orchestra is open to all students, faculty members, and citizens of the community who are proficient in the playing of an orchestral instrument. The repertoire is that of the standard symphony orchestra, with special emphasis on contemporary American music.

The functions of the orchestra are to provide the University and community an opportunity to hear symphonic music, to enable the student to gain orchestral experience, and to serve as a laboratory for student composers, orchestrators, and conductors. Four or five concerts are given each year on campus, and additional programs are presented in other cities in West Virginia and Pennsylvania.

The University Bands

The University Bands are composed of students drawn from all classes of the various colleges and schools of the University. The Mountaineer Marching Band provides music and pageantry for athletic events, parades, and the like. The Concert Band gives several concerts each year in Morgantown and in nearby cities.

Remission of Fee in the Band or Orchestra

After completing two years in the band or orchestra especially qualified members of these organizations may continue service in them upon invitation and receive allowances in the form of remission of fees amounting to $30 per semester.

STUDENT PUBLICATIONS

The *Daily Athenaeum,* University student newspaper, is published daily Tuesday through Saturday, by students of the School of Journalism. Heads of the editorial and business staffs are appointed by the University Committee on Student Publications from a list of eligible students certified by the Director of the School of Journalism.

The *Monticola,* student yearbook of the University, is published by upperclassmen. The editorial and managerial staff is appointed by the University Committee on Student Publications.

Mountain Guide, formerly called the *Freshman Handbook,* is published annually under the direction of the University Office of Publications and is distributed to each member of the entering class and to transfer students.

All student publications of general campus circulation are under the supervision of the University Committee on Student Publications.

SCHOLARSHIPS, FELLOWSHIPS, AND GRANTS

Many individuals and organizations who are friends and benefactors of the University and its students have established scholarships and fellowships for deserving students. Additional information concerning these scholarships may be obtained from the Director of Student Affairs.

Note that scholarships available for entering freshmen are marked by an asterisk.

For Students in The College of Agriculture, Forestry, and Home Economics

* *Rachel Colwell Scholarship.* This scholarship was established and is supported by Phi Upsilon Omicron, professional home economics organization. Alumni and active chapters cooperate in providing a tuition scholarship to an entering freshman who proposes to major in home economics at West Virginia University. Selection is based upon the candidate's high-school record, including experiences in such organizations as 4-H and F.H.A. Application blanks are available through the Division of Home Economics.

* *The Sears-Roebuck Home Economics Scholarships.* A grant of $600 to the College of Agriculture (Division of Home Economics) from the Sears-Roebuck Foundation of Chicago to three deserving girls enrolling as freshmen in Home Economics. Individual schloarships amount to $200 per year. The selection of the recipients of each of the scholarships is made by the Committe on Student Aid and Grants of the College of Agriculture, Forestry, and Home Economics.

*Scholarships for entering Freshmen.

* *The West Virginia Farm Women's Council Scholarships (State).* These scholarships of $100 each are available to three freshmen girls enrolled in the Division of Home Economics. Selection will be made by a committee composed of a representative from each of the following groups: Farm Women's Council, Division of Home Economics, and Agricultural Extension Service. Application forms may be obtained from the Student Aid and Grants Committee of the College of Agriculture, Forestry, and Home Economics, or from the Division of Home Economics.

* *Danforth Foundation Agricultural Leadership Training Scholarship.* A $50 scholarship at the American Youth Foundation Leadership Training Camp, Shelby, Michigan. This award is made to an outstanding agricultural freshman. The award is made jointly by the Danforth Foundation and Ralston Purina Company, St. Louis, Mo. Selection of recipient is made by the Student Aid and Grants Committee of the College of Agriculture, Forestry, and Home Economics.

† *The Sears-Roebuck Foundation Agricultural Scholarships.* A grant to the College of Agriculture of $2,250 from the Sears-Roebuck Foundation of Chicago makes possible the awarding of scholarships each year to upwards of ten needy deserving boys enrolling as freshmen in Agriculture and Forestry, and one sophomore in these fields. Individual freshmen scholarships amount to $200 per year. The sophomore scholarship amounts to $250 per year. The selection of the recipient of each of the scholarships is made by the Committee on Student Aid and Grants of the College of Agriculture, Forestry, and Home Economics.

The Borden Home Economics Scholarship Award. This award, established in 1954-55 for an initial five-year period, is in the amount of $300 annually. It is made to the senior student majoring in home economics, who has achieved the highest average grade in all college work preceding the senior year, and who has included in her curriculum two or more courses in foods and nutrition. The award is supported by the Borden Company Foundation, Inc.

The Broden Agricultural Scholarship Award. This award, established in 1954-55 for an initial five-year period, is in the amount of $300 annually. It is made to the senior student in agriculture who has achieved the highest grade in all college work preceding the senior year, and who has included in his curriculum two or more dairy courses. The award is supported by the Borden Company Foundation.

Phymosia Garden Club Scholarship. In September, 1954, the Phymosia Garden Club of Beckley, W.Va., started a special scholarship in the University in support of conservation education and related to the Division of Forestry. A scholar is named annually by the Club itself and awarded a grant of $100.

Ralston Purina Company Scholarship. The Ralston Purina Company of St. Louis, Missouri, established in 1955 an annual scholarship for an outstanding student in agriculture. The stipend amounts to $500 per year.

The Standard Oil Company of New Jersey Scholarships. In 1947 the Standard Oil Company of New Jersey provided a four-year scholarship of $100 per year to a boy in 4-H Club work in West Virginia. Recipients are selected by the Committee on Student Aid and Grants, the State Director of Extension, the State Club Leader, and the Dean of the College of Agriculture, Forestry, and Home Economics. Selection is made on the basis of need, merit, and ability.

The KDKA Agricultural Scholarship. To recognize outstanding leadership, to encourage the use of radio in disseminating agricultural information, and to help train students in broadcast techniques, Radio Station KDKA, Pittsburgh, Pennsylvania, has established this scholarship amounting to $100, for one junior or senior student in Agriculture. The student will be chosen each year by the Committee on Student Aid and Grants of the College of Agriculture, Forestry, and Home Economics.

The Andrew Delmar Hopkins Scholarship in Entomology. This scholarship, established in 1954, is in memory of Dr. Andrew Delmar Hopkins, internationally known entomologist. Dr. Hopkins was for many years Entomologist and Director of the West Virginia University Agricultural Experiment Station. This scholarship is for $200 per year and is awarded to worthy seniors or graduate students with an interest in entomology, and who have demonstrated originality and research ability. The award will be made by the University Committee on Prizes, Scholarships, and Loan Funds, with the advice of the Head of the Department of Plant Pathology, Bacteriology, and Entomology.

*Scholarships for entering Freshmen.
†Scholarships for entering Freshmen, and for one Sophomore.

The West Virginia Dairy Products Association Scholarships. The West Virginia Dairy Products Association offers three $250 scholarships this year. Applicants for these scholarships must be sophomores majoring in dairy manufacturing. They must be approved by the Head of the Dairy Department, the Committee on Student Aid and Grants, and the Dean of the College of Agriculture, Forestry, and Home Economics, and the Chairman of the Scholarship Committee of the Association.

The Kroger Company Scholarships. The Kroger Company will give four scholarships of $200 each, two for students in Agriculture or Forestry, and two for students in Home Economics. Awards will be made by the Committee on Student Aid and Grants on the basis of scholarship and leadership in school, church, F.F.A., F.H.A., 4-H Club, and other youth activities.

Danforth Fellowships in Home Economics. A four-week summer fellowship is awarded annually to a member of the incoming senior class in Home Economics. The award covers expenses for two weeks of professional trips in and near St. Louis, Missouri, and two weeks of Leadership Training at the American Youth Fellowship Camp on Lake Michigan.

A two-week summer fellowship is awarded anually to incoming sophomores in Home Economics. This fellowship is for the American Youth Foundation Camp on Lake Michigan.

These fellowships are awarded jointly by the Danforth Foundation and the Ralston Purina Company, St. Louis, Missouri. Candidates are selected by the staff of the Division of Home Economics.

Danforth Summer Fellowship in Agriculture. This fellowship is for four weeks duration. Two weeks are spent in and near St. Louis and two weeks at Camp Miniwanca, Shelby, Michigan. The fellowship is awarded to a junior student in Agriculture selected by the Student Aid and Grants Committee of the College of Agriculture, Forestry, and Home Economics. The recipient receives approximately $200 to cover travel and training expenses. The fellowship is sponsored jointly by the Danforth Foundation and the Ralston Purina Company.

For Students in the College of Arts and Sciences

* *State High School Drama Festival Scholarships.* In January, 1953, the Board Governors of West Virginia University created the State High School Drama Festival Scholarships. Three grants are awarded annually to graduates of West Virginia high schools who are declared outstanding winners at the finals of the State High School Drama Festival. Recipients receive remission of all fees except those payable to Special Funds and those chargeable to Special Services for four years. Awards will be made each year by the Department of Speech, and the scholarships shall remain in effect for four academic years unless revoked for disciplinary reasons, for failure to maintain scholastic standards, withdrawal from the University, or transfer from the College of Arts and Sciences.

* *West Virginia Interscholastic Forensics Scholarships.* In February, 1950, there were established five West Virginia University scholarships, two in debate, and one each in oratory, extempore, and interpretative reading, to be awarded annually to graduates of West Virginia high schools. These scholarships entitle the recipients to the remission of all fees, except those payable to the State Special Funds and those chargeable to Special Services. Awards will be made by the University Speech Department at the finals of the West Virginia Interscholastic Forensics Program on a date to be announced. Each scholarship remains in effect for four years unless revoked for disciplinary reasons, for failure to maintain scholastic standards, or withdrawal from the University.

Science Talent Search Scholarship. The Board of Governors of West Virginia University and the West Virginia Academy of Science established the Science Talent Search Scholarship beginning with the school year of 1949-50. The scholarship entitles the recipient to remission of all fees except those payable to State Funds and those chargeable to Special Services, as well as a cash award of an amount not less than the total remitted by the University. The recipient is selected by the West Virginia Academy of Science in accordance with their rules.

The State Department of Public Assistance Scholarships. These Social Work Scholarships, ranging from small sums up to $125 a month or more, are available to selected employees of the Department who hold an undergraduate degree from an accredited college or university. Application for these scholarships must be made to

*Scholarships for entering Freshmen.

the chief of the Division of Social Services or the chief of the Division of Child Welfare of the State Department of Public Assistance. Such students must also be approved by the head of the Department of Social Work.

The National Society of Colonial Dames of America Scholarship. The National Society of Colonial Dames of America, Resident in the State of West Virginia, in March, 1952, established an annual scholarship for the aid of a worthy graduate student for work in the field of Early Amercian History. The annual value of the scholarship is $150, and selection is made by the staff of the Department of History.

American Viscose Corporation Scholarship. The American Viscose Corporation of Marcus Hook, Pennsylvania, established in the fall of 1953 an undergraduate scholarship for a junior or senior majoring in Chemistry or Chemical Engineering. The annual money value of the scholarship is $500.

The R. M. Davis Scholarship in Political Science. R. M. Davis, Morgantown, West Virginia, coal operator, has given to the University the sum of $5,000 to establish a scholarship in the Department of Political Science. The scholarship, with an average annual value of between $300 and $500, will be granted to an undergraduate or graduate student whose specialty is international relations. The staff of the Department will select the winner. Scholastic standing and qualities of leadership will be given primary consideration in awarding the scholarship. Any West Virginia University student whose major is in Political Science and who is interested in being considered for this scholarship should write directly to the head of the Department of Political Science.

The Charles B. Jolliffe Scholarship. The Radio Corporation of America in May, 1952, established the Charles B. Jolliffe Scholarship in honor of Dr. Charles B. Jolliffe, Director of the Radio Corporation of America. The scholarship, valued at $800 per year, is awarded to an outstanding undergraduate student who has elected to major in Chemistry, Mathematics, or Physics. Application details may be obtained from the Dean of the College of Arts and Sciences.

The Junior League Scholarship. This scholarship, providing $150 a year for a graduate Social Work student, was established in 1942. It is jointly supported by the five leagues of West Virginia. Applicants must be residents of the State, and all applications are to be addressed to the head of the Department of Social Work at West Virginia University.

The West Virginia Federation of Women's Clubs Scholarship. This scholarship provides $150 a year and is awarded to a full-time student in the Department of Social Work. The recipient, selected by the head of the Department, must be a resident of West Virginia.

The Morgantown Service League Scholarship. This scholarship provides $150 a year for a full-time student in the Department of Social Work. The recipient must be a resident of West Virginia, and must be approved by the head of the Department of Social Work.

The Elizabeth Davis Richards Scholarship in English and Poetry. In memory of Elizabeth Davis Richards, well-known West Virginia authoress and patron of the English Club, an annual scholarship in the amount of $50 was established, in December of 1936, by Del Roy Richards of Morgantown. The scholarship is awarded to some worthy upper-division or graduate student majoring in English.

The Fairmont Junior League and Marion County Society of Crippled Children and Adults Fellowship. The Fairmont Junior League and the Marion County Society of Crippled Children and Adults established this fellowship at the University in September, 1953. The fellowship was established for the promotion and operation of a Speech Correction Clinic in the city of Fairmont. The value of the fellowship is $1200 plus tuition fees. Applicants should be graduates of an accredited college or university and be qualified for clinical services in speech correction. Applications are to be made directly to the Head of the Department of Speech.

Earhart Foundation Grant. In July, 1953, the Earhart Foundation established a grant of $4,500 at West Virginia University for the advancement of a graduate research project in Political Science.

Frederick Gardner Cottrell Grant. The Research Corporation granted $1,900 to West Virginia University for the support of a research project entitled "Chemistry of Organoboronic Acids and Their Derivatives."

For Students in the College of Commerce

West Virginia Consumer Finance Association Scholarship. The West Virginia Association of Consumer Finance Companies established in 1946 an annual scholarship of $150. This scholarship was established for the aid of an outstanding and needy University student who was a resident of West Virginia. In 1953 the Association specifically designated this scholarship for use by an outstanding student enrolled in the College of Commerce. Recipients are selected on the basis of character, academic achievement, and general campus activities.

For Students in the College of Education

* *The West Virginia University Board of Governors Scholarships in Education.* On April 22, 1954, the Board of Governors of West Virginia University established five annual scholarships in Education. Each scholarship includes four academic years and entitles the recipient to the remission of all fees, except those payable to state special funds and those chargeable to Special Services.

Scholarships are awarded to graduating high-school seniors who have a desire to become public-school teachers on the basis of scholastic ability and attainment, qualities of good citizenship, evidence of leadership and moral force, and extra-curricular activities. Students awarded scholarships shall register during their first two years in Pre-Education in the College of Arts and Sciences and during their final years in the College of Education.

The Education Foundation of West Virginia, Inc., Scholarships. In March, 1952, the Education Foundation of West Virginia, Inc., established two scholarships in the University for the aid of graduate students working toward doctoral degrees and whose dissertations will be written on some West Virginia subject. Need for financial assistance is a condition of scholarship awards. Each scholarship is in the amount of $500. Application details are available from the Dean of the Graduate School.

The Lakin Roberts Memorial Scholarship. This scholarship is open to graduate students in Education and is worth $200 per year. The scholarship is inoperative during the 1956-57 academic year.

For Students in the College of Engineering and Mechanic Arts

American Viscose Corporation Scholarship. The American Viscose Corporation of Marcus Hook, Pennsylvania, established in the fall of 1953 an undergraduate scholarship for a junior or senior majoring in Chemistry or Chemical Engineering. The annual money value of the scholarship is $500.

Carbide and Carbon Corporation Scholarship. In September, 1953, the Carbide and Carbon Chemicals Company of South Charleston, W. Va., (a division of Union Carbide and Carbon Corporation), established an annual scholarship for an outstanding student in Chemical or Mechanical Engineering. The scholarship has an annual value of $200 and is awarded during the student's senior year.

General Electric Company Scholarship. In 1952 the General Electric Company made a scholarship grant of $500 for use by an outstanding student in Engineering. The award is made by the General Electric Company intermittently on a competitive basis. Details may be obtained from the Dean of the College of Engineering and Mechanic Arts.

Westinghouse Achievement Scholarship. The Westinghouse Educational Foundation, Pittsburgh, Pennsylvania, established in March 1954 a Westinghouse Achievement Scholarship of $500 per year. Each year a senior student is selected from the enrollment in electrical, chemical, or mechanical engineering on the basis of "high achievement in academic work and demonstrated qualities of leadership." The selection is made by the faculty of the College of Engineering and Mechanic Arts.

International Nickel Company Fellowship. A fund of $1200 per year for a fellow plus $480 a year for supplies and overhead, for studies of heat transfer through metal walls.

The Edward Orton, Jr. Ceramic Foundation Fellowship. In October, 1950, the Edward Orton, Jr. Ceramic Foundation of Columbus, Ohio, established a fellowship of $1200 for research fundamental in character and primarily applicable to those branches of the ceramic industry making kiln fired wares. Candidates for this fellowship must have completed either a recognized course in ceramic engineering or technology or shall have acquired basic fundamental ceramic knowledge following the com-

*Scholarships for entering Freshmen.

pletion of a recognized course in engineering or the sciences. Applications should be submitted to the Director of the Engineering Experiment Station.

The Weirton Steel Company Fellowship. The Weirton Steel Company in November, 1952, established the Weirton Steel Company Fellowship in the University for the purpose of training a student in research methods as well as developing him in a graduate program. The value of the fellowship is $2300, and the program is under the direction of the Engineering Experiment Station. Application details may be secured from the Director of the Station.

For Students in the School of Mines

* *The Semet-Solvay Scholarship.* The Semet-Solvay Division, Allied Chemical and Dye Corporation, Bluefield, W.Va., established in March, 1952, the Semet-Solvay Scholarship in Mining Engineering. This scholarship is awarded to an outstanding high-school graduate who is a resident of West Virginia and who will pursue a course in coal mining engineering and will accept employment in the coal mining industry upon graduation.

This scholarship pays $600 per year, and is renewable from year to year upon the basis of satisfactory academic work during the previous year. Inquiries should be sent to the Director of the School of Mines.

* *The Kelley's Creek Colliery Company Scholarship.* This scholarship was established in 1948 by the Kelley's Creek Colliery Company. The winner is selected by competitive examination conducted by the University, and continues on the scholarship for four academic years if he maintains a satisfactory average. The scholarship is valued at $160 per year.

* *Coal Division, American Institute of Mining and Metallurgical Engineers Scholarship.* This scholarship was established for outstanding students in the School of Mines. The scholarship is valued at $400 per year, and may be awarded for a period of four years. Awards are made by the Scholarship Committee of the American Institute of Mining and Metallurgical Engineers. Inquiries should be addressed to the Director of the School of Mines.

Clarence Wayland Watson Memorial Scholarship. In the winter of 1955 the University received an anonymous gift for the establishment of the Clarence Wayland Watson Memorial Scholarship. Scholarship aid in varying amounts from this fund will be awarded from time to time to an outstanding and worthy graduate or undergraduate who will pursue some branch of study in coal development or coal research.

Armco Foundation Scholarship. The Armco Foundation of the Armco Steel Company, Middletown, Ohio, established in May, 1954, two scholarships in the field of Mining Engineering. Each grant provides $250 per academic year. One is awarded to a junior student and the other to a senior student in the School of Mines. Selection of recipients is made on basis of academic record, character, and personal leadership qualities.

Kanawha Valley Mining Institute Scholarships. Two scholarships, each valued at $600 per year, were established by the Kanawha Valley Mining Institute, Inc., of Montgomery, W. Va. The scholarships were established in 1948 and 1949, respectively. Selection is made by the Kanawha Valley Mining Institute with the approval of the Director of the School of Mines.

Lorado Coal Mining Company Scholarships. The Lorado Coal Mining Company, beginning in the fall of 1954, provided scholarship grants of $500 each per academic year to two students in the field of Mining Engineering. Selection of the recipients is made by the Lorado Coal Mining Company with the approval of the Director of the School of Mines.

The Central Appalachian Section of the American Institute of Mining and Metallurgical Engineers has awarded three scholarships to boys in Kentucky, West Virginia, and Virginia. These boys are eligible to attend any school teaching mining engineering in the area.

The West Virginia Coal Association Scholarships. The sum of $5,000 per year for each of five years beginning in 1947 was given by the West Virginia Coal Association to establish eight scholarships in coal mining engineering. Each scholarship totals $625 per year.

Bituminous Coal Research, Inc., Fellowship. A fund of $10,000 per year for a fellow and an assistant, and also for current expense and overhead, to study causes of acid formation in mine-drainage waters and to supply means of reducing, eliminating or utilizing such acidity.

*Scholarships for entering Freshmen.

For Students in the School of Journalism

The Charleston Press Club Scholarship. The Charleston Press Club Scholarship, established in 1951 by the Press Club of Charleston, W. Va., has a value of $200 per year, of which only $100 can be awarded in a semester. Recipients, who must be residents of West Virginia, are chosen from sophomores, juniors, or seniors in the School of Journalism for their ability, scholastic standing, promise for success in journalism, and financial need.

The School of Journalism Scholarships. Six scholarships in journalism are awarded annually to pre-journalism freshmen and sophomores and to professional juniors and seniors on the basis of ability, scholastic achievement, and promise for a successful journalistic career. Scholarship holders are eligible for reappointment. These scholarships were established in 1945. Two are known as the *Daily Mail Scholarships* and were established by Walter E. Clark and Fred M. Stanton of the Charleston Daily Mail. Two are known as the *Lewis Baker Scholarships* and were established by Mrs. Guy Despard Goff of New York City in memory of Lewis Baker, her father, who was a newspaper executive in Wheeling. The other two are known as the *Ogden Scholarships* and were established by the News Publishing Company of Wheeling in honor of the late H. C. Ogden, publisher and alumnus. These scholarships are awarded upon the recommendation of the Director of the School of Journalism.

For Students in the College of Law

The Frank Bliss Enslow Legal Scholarship. The late Mrs. Frank Bliss Enslow of Huntington, W. Va., provided in her will a trust fund in support of the Frank Bliss Enslow Legal Scholarship in West Virginia University. This annual scholarship award is restricted to students enrolled in the College of Law, and selection is made on the basis of ability, character, financial status, and scholastic qualifications. Recipients must be residents of West Virginia and preference will be given applicants from Cabell County, West Virginia. The amount of the scholarship award willl be determined from year to year.

The Patrick Duffy Koontz Scholarships. The late Patrick Duffy Koontz, Esq., and Arthur Burke Koontz, Esq., have donated to the University certain securities, the income from which is to be used for the purpose of establishing scholarships in the College of Law for worthy students from West Virginia. The value of each scholarship award is $250. The first of these awards was made during the academic year 1949-50. These scholarships are to be awarded to such second- or third-year students, as in the judgment of a committee of the faculty of the College of Law appointed by the President, shall have shown outstanding promise with respect to the following qualities: (1) scholastic ability and attainments; (2) moral force of character and leadership.

For Students in the School of Music

* *Board of Governors Scholarships in Music.* The Board of Governors of West Virginia University established, in July, 1950, ten annual scholarships in music. Each scholarship consists of four academic years in which the recipient is entitled to remission of all fees (including contingent and tuition fees, special fee of $35, and special instrument practice fee) except those payable to State Special Funds and those chargeable to Special Service. Recipients are selected according to results of preliminary and final contests which are held on the University campus on dates to be announced. All West Virginia high school seniors who give promise of becoming eligible for regular enrollment in the School of Music are eligible to participate in these contests.

* *The Woman's Music Club of Morgantown Scholarship.* The Woman's Music Club of Morgantown established, in the fall of 1950, an annual scholarship of $154 for the aid of a "talented freshman" in the School of Music. Selection is made by the Director and faculty of the School of Music.

University Band Drum Major Scholarship. The University Board of Governors in 1953 established a Drum Major Scholarship in the University Band, to be awarded annually. This scholarship entitles the recipient to remission of all fees, except those payable to State Special Funds and those chargeable to Special Services. Selection of the recipient is made by the Director of University Bands and the Director of the School of Music.

*Scholarships for entering Freshmen.

The Presser Foundation Scholarship in Music. The Presser Foundation of Philadelphia, Pennsylvania, established in November, 1952 an annual scholarship of $250 for the aid of students in the School of Music. Only students of good character and satisfactory standing, who could not carry on their studies without financial help provided by the Foundation, may receive this scholarship. Preference is given to those who expect to become teachers. The recipient is selected by the Director of the School of Music. All inquiries should be addressed to the Director's office.

Band and Orchestra Participation Scholarships. Band and Orchestra Participation Scholarships are awarded to those members of the band and orchestra who are especially well qualified, and after two years service, are invited to remain as members of these organizations. Recipients of these scholarships receive allowances in the form of remission of fees amounting to $30 per semester.

For Students in the College of Pharmacy

* *The American Foundation for Pharmaceutical Education.* This foundation, in order to stimulate an interest for pharmacy as a profession among capable high-school graduates, has assigned several scholarships to the College of Pharmacy. Each scholarship or grant covers tuition fees for one year. Selections for the awards are made by the faculty of the College and are awarded on the basis of scholarship and financial need. The holder may be eligible for reappointment. Additional information may be obtained from the Dean of the College.

* *The Pharmacists of West Virginia,* individually and collectively, have provided a number of scholarships in the amount of $150 per year for capable high-school graduates needing financial assistance to assist in their pharmaceutical education. The final selections of applicants for these scholarships are made by a committee of the West Virginia State Pharmaceutical Association. Additional information may be obtained from the Dean of the College of Pharmacy.

The P. A. and Ethel N. George Pharmacy Scholarship. Established in September, 1950, by Mr. Charles A. George of Ronceverte, West Virginia, this scholarship of $50.00 per semester is available to a student in the College of Pharmacy from either Greenbrier or Monroe counties who needs financial assistance to complete his pharmaceutical education at West Virginia University. Applications should be made to the Dean of the College of Pharmacy and the recipient must maintain at least a "C" average to continue on the scholarship.

Southern West Virginia Pharmaceutical Auxiliary Pharmacy Scholarship. This scholarship has been provided by the Woman's Auxiliary of the Southern West Virginia Pharmaceutical Association. The scholarship is in the amount of $150.00 per year and is limited to women students of the College of Pharmacy.

For Students in the School of Physical Education and Athletics

Carleton C. Pierce Scholarships. General Carleton C. Pierce established in June, 1950, three scholarships to be awarded as follows: $100 to "top man" and $50 to "second man" in the West Virginia University football team and $50 to the "top man" on the West Virginia Freshman football team, all of which shall be for the best academic work, as well as game participation. Recommendations for the recipients of these scholarships is the responsibility of the West Virginia University Varsity and Freshman coaching staffs.

For Students in any College or School of the University

* *Victor E. Albright Scholarship.* This scholarship of $200 per year is awarded "to a boy or girl of good character, of fair health, who was born and reared in Preston county and graduated from a high school in Preston County in the year in which the scholarship is given."

* *Sophia and Clara Benedum Scholarship Fund.* The will of the late Clara Benedum, Bridgeport, West Virginia, who passed away in January, 1949, established a $10,000 trust fund to be known as the Sophia and Clara Benedum Scholarship Fund. The provisions of the will state that "income is to be used in assisting graduates of Bridgeport High School in attending West Virginia University." The scholarships are administered by the University Committee on Prizes, Scholarships, and Loan Funds.

* *The Board of Governors Achievement Scholarships.* On April 5, 1945, the Board of Governors of West Virginia University authorized the establishment of twenty-five

*Scholarships for entering Freshmen.

scholarships to be awarded annually to high-school graduates. The first awards were made for the academic year 1946-47. The scholarships entitle recipients to remission of all fees, except those payable to State Special Funds and those chargeable to Special Services.

Awards are made on the basis of scholastic attainment, citizenship, loyalty, personality and character, leadership, and extra-curricular abilities.

Applications for these scholarships should be made through the Board of Governors Scholarship Committee. The scholarships are awarded on recommendation of the committee and on approval by the Board of Governors. The scholarships remain in effect for four years unless revoked for disciplinary reasons, for failure to maintain scholastic standard, or because of withdrawal from the University.

* *The Deem Rahall Memorial Scholarship.* The Rahall family of Beckley established in the fall of 1951 a freshman scholarship in the University in memory of Deem Rahall. The scholarship is for an outstanding and worthy graduating senior in Woodrow Wilson High School who desires to attend the University. The annual stipend, awarded for the freshman year only, amounts to $250.

* *General Motors Scholarships.* In January, 1955, the General Motors Corporation established a program of merit scholarships in the University. The first two were awarded to outstanding West Virginia high school graduates in the fall of 1955. These scholarships are granted for four years, and by the fall of 1958, eight General Motors scholarships will be in operation at the University. General Motors scholars are selected on the basis of high scholarship, character, and potential for college study.

* *Harrison County Alumni Chapter Scholarship.* This scholarship, established in 1950, provides tuition fees to an outstanding Harrison County high school graduate. Selection is made by the Harrison County Alumni Chapter.

* *The John Barton Payne Scholarship.* The Hon. John Barton Payne, native of Taylor County and late president of the American Red Cross, bequeathed to the University the sum of $12,000, the income from which is to be used to aid two young men —one a native of Taylor County and the other a native of Preston County—to attend the University. Financial need and scholastic merit are prime considerations in selecting recipients for the awards.

* *McDowell Club Scholarship.* One scholarship valued at $100 is awarded annually by the campus student organization known as the McDowell Club. Selection is made by competitive examination under the direction of the McDowell County Superintendent of Schools.

The Board of Governors Student Body President Scholarship. This scholarship is to be awarded to the student elected as president of the Student Body during the academic year in which he serves most of his term. The scholarship entitles him or her to the remission of all fees, except those going to Special Services.

West Virginia Division of the United Daughters of the Confederacy Scholarship. This scholarship was established in 1950 by the West Virginia Division of the United Daughters of the Confederacy. It has a value of $100 per year. Selection is made by the United Daughters of the Confederacy.

For Students from Foreign Countries

The Board of Governors Foreign Student Scholarships. These two scholarships are available to foreign students, graduate or undergraduate. Recipients are entitled to remission of all fees, except those payable to State Special Funds and those chargeable to Special Services, and are awarded at the discretion of the President of the University, usually to supplement campus or civic awards, or in case of emergency.

The West Virginia Farm Women's Council Foreign Scholarship. This scholarship, established in 1949 for the purpose of promoting better understanding between rural people of the United States and rural people of foreign countries, provides for books, board, and other necessary living expenses for a foreign student enrolled in the Division of Home Economics.

West Virginia Federation of Women's Clubs Pan-American Scholarships. The winner of this scholarship is remitted tuition fees by the Board of Governors and receives room, board, books, and other incidentals from the Federation.

The West Virginia University All-Campus Foreign Student Scholarship. In January, 1951, the All-Campus Foreign Student Committee, representative of several campus organizations, established a one-year scholarship for the support of a foreign student in the University. Board, room, and incidental expenses are paid annually by the Student Committee, with remission of tuition and fees provided by the University.

*Scholarships for entering Freshmen.

PRIZES, TROPHIES, MEDALS, AND AWARDS

Awards for prizes in the University are made in accordance with the following rules:

No composition, in whole or part, shall be submitted in competition for two prizes.

Only students pursuing courses leading to baccalaureate degrees are eligible for any prize, except for the James F. Brown prize.

No student shall be eligible to enter any contest who has not been a resident student in this University for at least one semester preceding the semester in which the contest is to be held, and who, unless he be a competitor for the James F. Brown prize, is not a resident student in good standing in the University in the semester in which the contest is held.

No successful contestant may become for a second time a competitor for the same prize.

If in any contest the judges find no manuscript of sufficient merit, there shall be no prize award for the prize that year.

Students intending to compete in any essay-writing contest must notify the chairman of the Committee on Prizes no later than March 15. Three typewritten copies of each essay must be in the hands of the chairman of the committee not later than May 15.

The conditions upon which the awards in the several contests are made may be learned upon application to the office of the Director of Student Affairs.

For Students in the College of Agriculture, Forestry and Home Economics

The LaVerne B. Davis Home Economics Award This award ($25.00) was established and is supported by Mr. and Mrs. Richard Earl Davis. The award is presented annually at commencement time to the graduating senior in the Division of Home Economics who has maintained the highest scholastic average during four years of residency.

For Students in the College of Arts and Sciences

The Waitman Barbe Memorial Prize. The English Club of West Virginia University offers an annual prize of $25 in memory of Waitman Barbe, poet, scholar, and adviser to the English Club during his long term of service on the faculty. The prize is awarded to some student regularly enrolled as a junior or senior in West Virginia University, for creative work in the field of literature, either in prose or poetry or both. The minimum length of such compositions must be four thousand words in prose or one hundred lines in poetry.

Chi Omega Sorority Prize. The Chi Omega sorority offers an annual $15 prize to the Sociology major with the highest academic ranking. All work done at West Virginia University is taken into account and no student is eligible to compete for the prize unless his junior and senior years have been spent at West Virginia University. The prize is awarded at the annual Commencement.

The Intercollegiate Peace Association of America provides $100 in cash prizes to be awarded as follows: $50 for first prize; $30 for second prize; and $20 for third prize in the annual Intercollegiate Peace Oratorical Contest. This contest is held under the auspices of the Department of Speech of the University and each institution of higher learning in the state is entitled to send one representative.

Phi Lambda Upsilon Fraternity Prize. Phi Lambda Upsilon, honorary chemical fraternity, offers annually the Alexander Reed Whitehill award to the student receiving the highest grade in chemistry during the freshman year. The award consists of an engraved ornament.

Prizes in Public Speaking. In each of the four events (debate, oration, extempore speaking, and poetry reading) in the West Virginia Interscholastic Public Speaking Contest a gold medal is awarded to the winner of first place; a silver medal to the winner of second place; and a bronze medal to all other speakers who participate in the semi-finals at the University. Each high school represented by a winner of first place is presented with a beautiful wall plaque with the escutcheon of the University mounted upon it.

The Sigma Xi Award. Sigma Xi, the national honorary scientific research society, annually gives an award to the senior student majoring in science who shows most promise in research. The award consists of election to associate membership in Sigma Xi, with the initiation fee and Associate's key donated by the West Virginia Chapter.

For Students in the College of Commerce

The Wall Street Journal Student Achievement Award. This award, an engraved plaque, is awarded annually to the senior student in the College of Commerce who is selected by a faculty committee of that College.

The Alpha Kappa Psi Scholarship Key Award. Beta Rho Chapter of Alpha Kappa Psi, a professional fraternity of commerce, awards annually the Alpha Kappa Psi Scholarship Key to the male senior in the College of Commerce who has attained the highest scholastic average for a minimum of six semesters of collegiate work in this University.

The Daniel S. Witschey Award. Robert E. Witschey offers $50.00 each year to an outstanding student majoring in accounting.

The Public Accounting Award. Each year a set of the *Certified Public Accountant's Handbooks* will be given to the student majoring in accounting and who has the highest academic ranking and who expects to enter into the field of public accounting.

For Students in the College of Engineering and Mechanic Arts

Tau Beta Pi, honorary Engineering fraternity, each year offers an engraved cup to the sophomore engineer who during his freshman year maintained the highest average in his class.

The Charles E. Lawall Award. This award was created in 1952 through the generosity of D. L. McElroy of Pittsburgh, Pa., and will be given in the first semester of each school year to the senior student maintaining the best scholastic average in the first one hundred hours of the required curriculum. Students in the coal mining option and the oil and gas option are eligible. This award carries a cash payment of $50.00.

The Rufus A. West Award for Engineering Students. The late Rufus A. West, a former instructor in the University, because of his interest in the College of Engineering and in the young men who have been and are students there and with the further idea of promoting sound scholarship, bequeathed $10,000, the income of which is to be used as an award to the member of the graduating class of the College of Engineering in June who has maintained the highest scholarship as measured by his grade-point average. The first date for the presentation of this award was June 1953.

The James Wimen Memorial Award. This award pays tuition for one year. The donor desired anonymity. The award is given to the senior making the highest average in his first three years in Chemical Engineering.

For Students in the School of Mines

West Virginia Coal Mining Institute Prize for Students in the School of Mines. In order to stimulate interest on the part of mining engineering students in their profession, the West Virginia Coal Mining Institute offers a prize of $25 each year to the members of the graduating class of the School of Mines. The student must be enrolled in the coal mining option and his scholarship must be the highest of that group as measured by his grade-point average.

West Virginia Oil and Natural Gas Association Prize for Students in the School of Mines. In order to stimulate interest on the part of oil and natural gas engineering students in their profession, the West Virginia Oil and Natural Gas Association offers a prize of $25 each year to a member of the graduating class of the School of Mines. The student must be enrolled in the oil and natural gas option, and his scholarship must be the highest in that group as measured by his grade-point average.

For Students in the College of Law

The James F. Brown Prize. The Hon. James F. Brown, an alumnus of the University, "with a desire to stimulate the young men of the State to fuller consideration of the 'inalienable right of mankind', and especially those guaranteed by the Constitution of the State and the United States," has contributed $5,000 to the University, the income of which is to be "used as a prize for the best essay or paper each year on the subject of the individual liberties of the citizen as guaranteed by the Constitution." The income may be given as a single prize, or it may be divided into a first and second prize. For the present the award will be made as a single prize, $200 in amount. Any regularly enrolled student in any school or college of the University or any student within one year after receiving an undergraduate degree may compete for this prize. Graduates of the College of Law or the School of Medicine or holders of any post-graduate degree are not eligible to compete for this prize.

The Nathan Burkan Memorial Prize. The American Society of Composers, Authors, and Publishers has established the Nathan Burkan Memorial Competition, open to the leading universities and colleges of the country that offer a course in law. A prize of $100 is available in each institution, to be awarded to the student in the graduating class in Law who prepares the best paper on the subject of "Copyright Law."

The Guy Farmer Award. Guy Farmer, Esq., has made a donation to the University for the purpose of establishing scholarship awards to such members of the Student Board of Editors of the *West Virginia Law Review* as, in the judgment of the faculty of the College of Law, shall have made outstanding contributions to the *Law Review.* The value of each of the awards is $50. No more than one award will be made in any one year.

Charles M. Love Law Award. The Charles M. Love Law Scholarship Awards were established in June 1954 by a gift from Charles M. Love of Charleston. The purpose of these awards is to recognize outstanding contributions made to the *West Virginia Law Review* by students enrolled in the College of Law. Awards are made from time to time by the Law faculty.

The Lawyers Title Award. The Lawyers Title Award to be made by the College of Law to the graduating student found by the Scholarship Committee of the College of Law to have been most proficient in Proprety Law. The award consists of an appropriate certificate and $100 in cash.

The Tax Commission Prize. The honorable members of the State Tax Commission of 1902, namely, W. P. Hubbard, Henry G. Davis, John K. Thompson, L. J. Williams, and J. H. Holt, gave the sum of $1,350, later increased by unawarded sums to $1,500, the income of which is to be used annually as a prize for the "best original work bearing on matters of taxation in West Virginia." The conditions of the competition are determined by the Council of Administration. The amount of the prize at present is $50.

United States Law Week Award. The Bureau of National Affairs, Inc., has established the United States Law Week Award to be made annually to the graduating student who is judged by a faculty committee to have made the most satisfactory progress during his senior year. The award consists of a year's complimentary subscription to the United States Law Week.

For Students in the School of Medicine

Alpha Epsilon Delta Prize. The Alpha of West Virginia chapter of Alpha Epsilon Delta offers each year a silver cup to the freshman premedical student who has made the best scholastic record for the year in chemistry and zoology.

For Students of Military Science and Tactics

James C. Borden, Jr. Memorial Prize. The West Virginia University Mountaineer Rifle Club and the Gamma Pi Chapter of Sigma Nu Fraternity award each year a bronze trophy to the outstanding rifleman on the Varsity Rifle Team. The winner's name is inscribed on a plate on the base of the trophy which remains on permanent display in the Armory.

Lt. James E. Marshall Memorial Award. The Beta Psi Chapter of Beta Theta Pi awards each year a bronze trophy to the most outstanding West Virginia University R.O.T.C. senior infantry student. The winner's name is inscribed on a plate at the base of the trophy which remains on permanent display in the Armory. A small metal emblem attesting to the honor is presented to the recipient.

The Association of the United States Army Award. The Association of the United States Army awards medals each year to a most outstanding senior Army R.O.T.C. student and the outstanding junior Army R.O.T.C. student.

West Virginia Reserve Officers Association Awards. The West Virginia Reserve Officers Association awards medals each year to the outstanding advanced course Army R.O.T.C. student and the outstanding basic course Army R.O.T.C. student.

Armed Forces Communications Association Award. The Armed Forces Communications Association awards a medal each year to the outstanding senior Army R.O.T.C. student majoring in Electrical Engineering.

For Fraternities and Sororities

The Louis D. Corson Interfraternity Scholarship Trophy. This trophy is awarded at the end of the University year to the fraternity having the highest average scholar-

ship standing for that year and is to remain in possesssion of that fraternity during the following year. The cup becomes permanent property of the fraternity that wins it three times.

Pan-Hellenic Association Scholarship Cups. The Pan-Hellenic Association offers two scholarship cups. Any sorority which is a member of the Women's Pan-Hellenic Council may compete for the cup, and it is awarded each year to the group having the highest average. The women's sorority which has maintained the highest average for three consecutive years is given permanent possession of the cup. The Pan-Hellenic Association also offers a cup each year to the pledge group which maintains the highest average.

The School of Physical Education and Athletics offers two trophies to the fraternities scoring the highest and second-highest number of points in the all-year athletic competition for fraternities.

For Students in the School of Music

Epsilon Nu chapter of Mu Phi Epsilon annually presents an award of $25 to a senior woman student in the School of Music for outstanding qualities of character, scholarship and musicianship.

For Students in the College of Pharmacy

The Bristol Labora'ories Award. This award, consisting of the latest edition of Howard's Modern Drug Encyclopedia, is made to the graduating senior contributing most to pharmacy during the year.

Gay H. Dent Essay Award. Funds have been provided for awarding $25.00 to the student of the College who submits the best essay on some pharmaceutical subject during the second semester of the school year. A committee of students selects the subject for the essay and judges the entries to select the best essay submitted.

Gay H. Dent Prize. Gaylord H. Dent, for many years a successful pharmacist of Morgantown, West Virginia, bequeathed to the College of Pharmacy the sum of $500.00. The interest on this money is used to maintain the Gaylord H. Dent Prize, which in some measure typifies the personal traits of the donor. The prize is awarded biennially to the graduating senior, who, in the opinion of the members of the senior class, is most likely to succeed in the profession of pharmacy because of a love of service, a genial personality, and natural leadership.

The Lehn and Fink Medal. Through the generosity of Lehn and Fink, manufacturing chemists of New York City, the College of Pharmacy awards a gold medal each year to the senior Pharmacy student who, in the opinion of the faculty of the College of Pharmacy, attains the highest scholarship. The medal is appropriately engraved.

The Merck Award. Merck and Company, Inc., manufacturing chemists of Rahway, N.J., offers an award consisting of the current edition of *The Merck Index, The Merck Manual of Therapeutics and Materia Medica,* and *Reagent Chemicals and Standards* to the graduating senior who attains the highest grade in Pharmacy 113.

Rho Chi Awards. In order to stimulate superior scholastic ability among students in the College of Pharmacy, Alpha Mu Chapter of Rho Chi, honorary society, offers the following awards:

An appropriate engraved trophy to the student attaining the highest scholastic record the first year of enrollment in the College.

The current edition of the *United States Dispensatory* to the student attaining the highest scholastic record during the sophomore year.

The West Virginia State Pharmaceutical Association Prize. The West Virginia State Pharmaceutical Association offers to the student making the best set of drawings in Pharmacy 112 a one year, paid-up membership in the American Pharmaceutical Association.

LOAN FUNDS

The following loan funds are administered through the office of the Director of Student Affairs, with the cooperation of advisory committees, University officials and alumni. Applications may be filed with Joseph C. Gluck, 204 Administration Building

For Students in the College of Agriculture, Forestry, and Home Economics

The Baltimore and Ohio Railroad Fund. A special fund for small loans to students in the College of Agriculture has been established by the Baltimore and Ohio Railroad.

Maude George Memorial Fund. In September, 1950, Mr. Charles A. George of Ronceverte, West Virginia, in memory of his aunt, established the Maude George Memorial Loan Fund, in the amount of $50 per semester or $100 per academic year, during his lifetime, for a man or woman student from either Greenbrier or Monroe counties, West Virginia, who is enrolled in Agriculture, Home Economics, or the Forestry Division. Application should be made to the Dean of the College of Agriculture.

For Students in the College of Arts and Sciences

Lily Belle Sefton Deatrick Student Loan Fund. Established in 1947 by the Campus Club in memory of Lily Belle Sefton Deatrick. Small loans are made to students without interest until after graduation. The fund is administered by the Dean of the College of Arts and Sciences and the Head of the Department of Chemistry.

Social Work Alumni Loan Fund. This fund, totaling $100 at present, was established in 1951 for the benefit of undergraduate or graduate students in the Department of Social Work, irrespective of residence. Loans are made by the Director of Student Affairs with the approval of the Head of the Department of Social Work. No interest is required, and loans are to be repaid within two years after the student has completed his current degree objective.

West Virginia State Conference of Social Work Fund. In 1940 the State Conference of Social Work established a student loan fund for the Department of Social Work, such fund to be granted, without interest, to eligible full-time graduate Social Work students who are residents of West Virginia.

For Students in the School of Mines

The Monongahela Valley Coal Mining Institute Loan Fund. In December, 1952, the Monongahela Valley Coal Mining Institute established a loan fund of $1,000 in West Virginia University to aid worthy students in the field of coal mining engineering who are residents of Monongalia County, West Virginia. Loans may be made to students beyond their first semester in Mining Engineering on a short-time basis without interest.

† *John M. Crawford and David B. Crawford Loan Fund.* In November, 1951, the Parkersburg Rig and Reel Company, Parkersburg, West Virginia, established the John M. Crawford and David B. Crawford Loan Fund with an initial gift of $5,000. The purpose of this fund is to assist accredited students who are seeking a degree in engineering or geology and who have financial need. Loans are available to students who are graduates of West Virginia high schools, and seeking a degree in engineering, preferably petroleum engineering or geology.

Fred G. and Nannie D. Wood Loan Fund. In November, 1949, the Fred G. and Nannie D. Wood Loan Fund was created by an initial gift of $1,000 from Fred G. Wood, retired Raleigh County coal operator now living at Daytona Beach, Florida. The fund provisions state that loans shall be made to assist students to receive training in the engineering of coal mines, and that "preference shall be given to students from families engaged in coal mining, or who have grown up in coal mining communities."

For Students in the School of Journalism

Robert H. Pritchard Journalism Loan Fund. In September, 1952, Dr. and Mrs. Frank V. Rueckl of Winnemucca, Nevada, established a loan fund in the University in memory of Mrs. Rueckl's father, Robert H. Pritchard, a former member of the University Board of Governors and prominent newspaper owner and editor in Weston, W. Va. This fund of $1,000 is open to use by Journalism students who are residents of West Virginia. Loans up to $100 per year may be obtained by a student over four years.

P. I. Reed Journalism Alumni Loan Fund. This fund was started in 1949 by members of the Journalism Class of 1940 to provide small emergency loans to Univer-

†Also for geology students in the College of Arts and Sciences.

sity students majoring in Journalism. The fund was raised through contributions of Journalism alumni of various classes. Loans should be repaid in one to three months. The fund honors Dr. P. I. Reed, Director of the School of Journalism since it was formed in 1939, and formerly head of the Department of Journalism.

For Students in the College of Law

The John W. Davis Fund, established for the making of loans to outstanding law students, aids worthy students each year.

For Students in the School of Medicine and Dentistry

Howard T. Phillips Loan Fund. The late Dr. Howard T. Phillips of Wheeling set aside in his will a grant of approximately $1,000 for loans to medical students at West Virginia University. The fund was set in motion in the fall of 1949. Dr. Phillips stipulated that loans from this fund should be made to "students who are deserving as well as needy and who are enrolled in the Medical School."

The John B. Finley Fund. A fund of $1,000 was contributed to the University by the trustees of the estate of the Hon. John B. Finley of Pittsburgh, Pa., in accordance with his last will and testament, to be used to make loans to deserving students in the School of Medicine.

The Kellogg Foundation Fund. The Kellogg Foundation in 1942 allotted $5,000 to West Virginia University for loans to students of medicine. Loans may not exceed $150 during any academic year. The total loan to one student may not exceed $250. Interest is charged at the rate of 2 per cent. Students may not borrow after the successful completion of one term in the School of Medicine.

Oscar W. Burdats Dental Student Revolving Loan Fund. In October 1955 friends of Oscar W. Burdats in the Wheeling area established a student loan fund for dental students of the University in recognition of Dr. Burdats' outstanding leadership in the dental profession for more than sixty years. The fund will be used for loans to worthy dental students in the University who are residents of West Virginia.

Memorial Loans for Students in any College or School of the University

C. R. Orton Memorial Loan Fund. In October 1955 a memorial loan fund was established by friends of Clayton R. Orton, former Dean of the College of Agriculture, Forestry and Home Economics. The fund is available for small emergency loans by any student in the University.

The Chauncey Watson Boucher Fund. This fund was established in 1936 by former President C. S. Boucher in memory of his father. Seniors from West Virginia may borrow only for the payment of University fees. Loans must be repaid within two years and are without interest.

The Theodore Smith Fund. On April 19, 1930, Theodore Smith was drowned in the Monongahela River. His tragic death disclosed the fact that he was being financed through the University by the late Hon. James Elwood Jones. He had taken out a life insurance policy of $2,000 with Mr. Jones as beneficiary. In deference to the memory of Theodore Smith, Mr. Jones turned the $2,000 over to the University for the establishment of the Theodore Smith Fund.

The P. C. Thomas Fund. In May 1943 the P. C. Thomas loan fund was established in memory of the late P. C. Thomas of the Koppers Coal Company. The initial contribution made by the employees of the Company was $520.

For Students in any College or School of the University

American Bankers Association Foundation for Education in Economics Loans. The American Bankers Association Foundation for Education in Economics has assigned to West Virginia University three scholarships of $250 each. These scholarships will be "awarded only to deserving students of integrity, intelligence, character, competency, and aptitude, whose means of support are dependent wholly or in part on their own labor, to enable them to continue the study of courses in banking and economics in classes of junior grade or above. Scholarship of the highest rank will not be a definite requirement for a loan scholarship award; however, the Foundation desires to encourage students who will become leaders in professional or business life and

does not wish loan scholarships granted to mediocre or inferior students." The holders of these scholarships are eligible for one reappointment. The loan is without interest until the first day of the second January after the recipient leaves the University. Beginning on that date interest accrues at the rate of 5 per cent per year, and repayment of both principal and interest in sums of no less than $10 monthly must likewise then begin.

Claude Worthington Benedum Scholarship Loan Fund. The Claude Worthington Benedum Foundation in 1952 established this scholarship loan fund in the University with an original gift of $5,000.00. An additional gift of $15,000 was made to the fund in 1953. Deserving students from West Virginia who are in need of financial assistance to complete their educations are eligible for aid from this fund.

Campus Club Loan Fund for Women. Beginning in 1918, the Campus Club established an emergency loan fund for the aid of women students enrolled in the University. Small loans for emergency needs are made to women students. Applications and loan details may be secured from the director of Student Affairs, 204 Administration Building.

Elizabeth McAllister Crawford and John McLenaghan Crawford Fund. In October, 1950, the Consolidated Natural Gas System Educational Foundation established the Elizabeth McAllister Crawford and John McLenaghan Crawford Loan Fund with an initial gift of $10,000. The purpose of this fund is to assist students who are without other resources from which their educational needs may be met. To be eligible for this aid, a student must be a graduate of a West Virginia high school, enrolled in a course leading to a degree, and must have completed at least the first semester of the freshman year.

Faculty Emergency Loan Fund. An emergency loan fund for faculty members of the University was established in October of 1954 by an initial gift of $1,000 from the Tidy House Products Company in Shenandoah, Iowa. A. W. Ramsey, general manager of the Company and University graduate, was responsible for the grant which is designed to provide small emergency loans for faculty members at a minimum cost. Requests are handled by the Faculty Loan Committee through the Director of Student Affairs.

The Charles E. Lawall Fund. Established in 1939 for small loans to worthy students; available to students whose scholastic record has been satisfactory; interest payable only for periods in excess of time for which the loan is granted.

The Leon Leonian Memorial Fund. Established in July 1945 to honor the memory of Dr. Leon H. Leonian. Small loans are made to students for a short period without interest.

The Loyalty Permanent Endowment Loan Fund of the W.V.U. Alumni Association. This fund was established some years ago by contributions of alumni and other friends of the University. It is a permanent trust fund, the income of which is available to worthy students.

Raleigh County Alumni Association Loan Fund. In November, 1953, the Raleigh County Alumni Association established the loan fund in the University for the aid of students enrolled from Raleigh County. The initial gift to the fund was $475.00. Any regularly enrolled student who has permanent residence in Raleigh County, West Virginia, may secure aid from the fund when available.

The Revolving Emergency Loan Fund. A fund to meet emergencies of University students was established in October, 1931. The principal of this fund amounts to about $3,000. H. E. Stone was founder of the fund. Loans are made in small amounts and for short periods of time.

The Senior Class Loan Fund. A gift of $100 was given by the 1949 Senior Class to be used for aid to seniors in the University needing financial assistance. The Senior Class of 1950 supplemented this fund with their gift of an additional $100. Small loans are made without interest.

Service Club Loan Fund of West Virginia University, Inc. In 1950, the West Virginia Kiwanis District established a non-restricted loan fund for needy University students. This loan fund is administered through the Office of the Director of Student Affairs. Any student who is in good standing in the University and is in need of some financial help may receive a loan. The fund is operated on a non-profit basis and the low rate of interest charged is to go toward the building up of the total amount that will be available for the student loans.

For Students in Pharmacy

Alfred Walker Fund. This is a special fund for loans to Pharmacy students, established in 1938 by Dean J. Lester Hayman in honor of the memory of Alfred Walker of Sutton, first president of the West Virginia Pharmaceutical Association and, for many years, secretary of the State Pharmaceutical Association.

HONOR SOCIETIES

Alpha Epsilon Delta (Premedical). The Alpha of West Virginia chapter of Alpha Epsilon Delta was established at West Virginia University in 1930. The chief object of the society is promotion of high scholarship among premedical students. Juniors and seniors of high scholarship and character are eligible for membership.

Alpha Psi Omega (Dramatics). Pi chapter of Alpha Psi Omega was formed at West Virginia University in 1926. Recognition is given as a reward to students distinguishing themselves in dramatic productions, both by playing roles and by performing other outstanding duties on the technical and business side of productions.

Alpha Zeta (Agriculture). The West Virginia chapter of Alpha Zeta, the national agricultural honor fraternity, was instituted in the College of Agriculture in 1921. Sophomores and upperclassmen who maintain high standing in scholarship and rank among the upper two-fifths of their respective classes are eligible to membership.

Chi Epsilon (Civil Eng'g). Chi Epsilon, the recognition society in the field of civil engineering fosters the development and exercise of fundamentally sound traits of character and technical ability among engineers which will work towards a higher standard of service offered to humanity by the profession. The West Virginia chapter was formed in 1949. Membership is open to outstanding members of the junior and senior classes.

Chimes. In June, 1948, Rhododendron, Junior women's honorary, became the West Virginia University Chapter of Chimes, a national honorary society. The purpose of Chimes is to honor those junior women who have shown loyalty to their University by giving their service and leadership. The members endeavor to develop higher ideals of leadership, service, and scholarship among college women. A scholastic standard must be met by all candidates. Candidates are elected in the spring and receive public recognition during Link Day services.

Delta Nu Tau (Pre-Law).

Epsilon Lambda Sigma (Accounting). This is a local honorary society for outstanding students in Accounting with high scholastic average. The purpose of Epsilon Lambda Sigma is to promote the moral, intellectual, and social developments of its members; to encourage individual research; and to foster interest in the field of accounting at West Virginia University.

Eta Kappa Nu (Elec. Eng'g). Eta Kappa Nu, an Electrical Engineering honorary society installed at West Virginia University in 1946, is open to students in the upper fourth of the junior class and in the upper third of the senior class.

Helvetia. Helvetia, a sophomore men's honorary, was organized at West Virginia University by Mountain in the spring of 1955. Helvetia serves to recognize outstanding men students who have achieved high scholarship and service during their freshman year. Helvetia promotes an active program for general orientation of freshmen entering the University.

Kappa Delta Pi (Education). Kappa Delta Pi, national honorary educational society installed Alpha Upsilon chapter at West Virginia University on July 21, 1927. Election to this fraternity is conditional upon high scholarship and desirable personal and professional qualities.

Kappa Tau Alpha (Journalism). This is a national journalistic honor society with special emphasis on high scholarship and the best professional ideals. There are chapters in twenty-two universities. The West Virginia chapter was established in 1930.

Li-toon-awa. Li-toon-awa is the honorary for sophomore women who are chosen in the spring of their freshman year on the basis of outstanding achievement in scholarship, activities, leadership, and service to the University.

The primary purpose of the organization is that of guiding freshman women and assisting them in adjustment to college life and its problems. During the school term Li-toon-awa serves two teas in honor of these freshman women, one during Freshman Week and the other in the spring. Working throughout the year, Li-toon-awa elects and serves a project to complete the purpose of the organization.

Mortar Board. Laurel Chapter of Mortar Board, national women's honorary, was instituted at West Virginia University in 1924. The purpose of Mortar Board is to promote college loyalty, to advance the spirit of scholarship, to recognize and encourage leadership, and to stimulate and develop a finer type of college woman." Qualifications for membership are service, scholarship, and leadership. New members are elected to Mortar Board in the spring from women who will have completed their junior year by the opening of the fall term. A scholarship standard must be met by each candidate.

Mountain. Mountain, organized in 1904, is the oldest senior men's honorary at West Virginia University. Mountain recognizes outstanding leadership and University service, and sponsors such working projects as the Mountaineer Week Team and the Homecoming Dance.

Omicron Nu (Home Economics). On October 16, 1951, Omicron Nu, national honor society in Home Economics, was established at West Virginia University. The society has as its purpose "the promotion of scholarship, leadership, and research, and the advancement of home economics throughout the world." Membership in Omicron Nu is based upon high scholarship and promise of future achievement. Only persons from the highest 20 per cent of the class are eligible for membership. Election is not permitted earlier than the fifth semester of the college course.

Order of the Coif (Law). A chapter of the Order of the Coif, national law school honor society, was installed in 1925. Its members are selected by the law faculty from 10 per cent of the senior class in the College of Law ranking highest in scholarship.

Phi Beta Kappa (Scholarship). The Alpha of West Virginia chapter of the Phi Beta Kappa Society is established at the University. Stated meetings or public exercises of the society are held twice annually; the anniversary meeting on December 5, and the annual meeting during Commencement Week. The honor of membership may be conferred upon candidates for the Degree of Bachelor of Arts, the Degree of Bachelor of Science (if they also meet the requirements for the former), or for the Degree of Doctor of Philosophy who have maintained a high scholarship rank during their college courses; also, upon outstanding alumni of the University, and persons attaining national or international reputations in letters, science, or education.

Phi Epsilon Phi (Botany). Phi Epsilon Phi, botanical honor fraternity, was founded at West Virginia University in 1929. The fraternity has for its purpose promotion of high scholarship, inciting of interest in botanical research, and encouragement of professional ideals. Seniors and graduate students who are engaged in botanical work and who have attained a high standard of scholarship and character are eligible for membership.

Phi Lambda Upsilon (Chemistry). The Tau chapter of Phi Lambda Upsilon, national chemical honor fraternity, was established at the University in 1924. The chief object of the society is promotion and protection of high scholarship and original investigation of all branches of pure and applied chemistry. Seniors and juniors who have attained a high standard of scholarship and character are eligible.

Pi Delta Phi. The Alpha Omicron chapter of Pi Delta Phi, national French honor society, was established at the University in 1950. The society has for its aims the recognition of merit in the study of French language, literature and civilization and the fostering of French culture. Membership is open to outstanding students of high scholarship, majoring or minoring in French language and literature, who have completed at least one upper-division course in French.

Pi Tau Sigma (Mechanical Eng'g). The West Virginia Pi Gamma chapter of Pi Tau Sigma was installed at West Virginia University on March 31, 1942. This is an honorary mechanical engineering fraternity with chapters in thirty-five universities. Seniors and juniors in Mechanical Engineering who have attained high scholarship rank are eligible for membership.

Psi Chi (Psychology). West Virginia chapter of Psi Chi, national recognition society in the field of psychology, was formed November 15, 1948. Membership is open to psychology majors and minors who have a high scholastic average. The purpose of the society is primarily to advance the science of psychology and is further concerned with stimulating scholarship of the individual members in all academic fields.

Rho Chi (Pharmaceutical). Rho Chi, National Honorary Pharmaceutical Society, installed Alpha Mu chapter at West Virginia University, January 28, 1949. The object of the Society is "the promotion of scholarship and friendship and recognition of high attainments in the pharmaceutical sciences." A student elected to membership must have completed 75 hours of scholastic work, attained a scholastic average of "B" or

better, shown capacity for achievement in the science and art of pharmacy and the allied sciences as evidenced by strength of character, personality, and leadership; and be approved by the Dean of the College of Pharmacy.

Scabbard & Blade (Military). C Company, Second Regiment, West Virginia University, the National Society of Scabbard and Blade, was installed on May 21, 1916. The Society believes that military service is an obligation of citizenship and that the greater opportunities afforded college men for the study of military science place upon them certain responsibilities as citizens. The purpose is to create and unite in closer relationship the military departments of American universities and colleges; to preserve and develop the essential qualities of good efficient officers; to prepare themselves as educated men to take a more active part and to have a greater influence in military affairs of the communities in which they may reside; and above all to spread intelligent information concerning military requirements of our country. Advanced Course R.O.T.C. and A.F.R.O.T.C. students who maintain high standing in scholarship, leadership, character, and efficiency are eligible for membership.

Sigma Gamma Epsilon (Earth Sciences). Upsilon chapter was established at West Virginia University in 1927. The fraternity has for its objects the social, scholastic, and scientific advancement of its members; extension of relations of friendship and assistance between the universities and scientific schools with recognized standing in the United States and Canada; and upbuilding of a national college society devoted to advancement of geology, mining, metallurgy, and ceramics. Seniors and juniors in the courses indicated, who have attained high scholarship rank, are eligible for membership.

Sigma Pi Sigma (Physics). Theta chapter of Sigma Pi Sigma, national physics honor society, was installed in the University in 1929. The formal statement of objects of the society is: "To reward high scholarship and promote interest in the advanced study of physics, to stimulate individual research, and to enable its members to keep pace with the progress of science." A student elected to membership must be taking some course in physics at the time of his election. Graduate students who are taking advanced work in physics and related subjects are eligible for membership.

Sigma Xi (Scientific Research). The Society of the Sigma Xi is a national honorary society devoted to advancement of research in pure and applied science. Membership may be conferred upon faculty members and students who show outstanding ability in some field of scientific research.

Sphinx (Senior Men's Honorary). Sphinx, Senior Men's Scholarship Society, was established at West Virginia University in 1909. Its purpose is to accord suitable recognition to students of high standing in scholarship. The local chapter acts as a sponsor and preserver of all such college traditions as it may find worthy; and to act for the inspiration, betterment, and guidance of the Freshman Class.

Tau Beta Pi (Engineering). The West Virginia Alpha chapter of the national engineering honor association of Tau Beta Pi was established in the College of Engineering in 1922. Students who rank in scholarship among the upper one-eighth of their class are eligible to election in their third year and all who rank among the upper one-fourth of the class are likewise eligible in their fourth year. These together with alumni and honorary members constitute the chapter.

Xi Sigma Pi (Forestry). Xi Sigma Pi, forestry honor society, was established at West Virginia University on May 16, 1950. The objects of Xi Sigma Pi are "to secure and maintain a high standard of scholarship in forest education, to work for the upbuilding of the profession of forestry and to promote fraternal relations among earnest workers engaged in forest activities."

OTHER UNIVERSITY ORGANIZATIONS

There are in the University various fraternities, sororities, societies and clubs devoted chiefly to social, educational, and athletic interests of students. Some of the more important of these organizations are:

Social Fraternities

Alpha Gamma Rho
Alpha Phi Delta
Alpha Sigma Phi
Beta Theta Pi
Delta Tau Delta
Kappa Alpha
Kappa Sigma
Lambda Chi Alpha
Phi Delta Theta
Phi Kappa Psi
Phi Kappa Sigma
Phi Sigma Delta
Phi Sigma Kappa
Pi Kappa Alpha
Pi Lambda Phi
Sigma Chi
Sigma Nu
Sigma Phi Epsilon
Tau Kappa Epsilon
Theta Chi

Social Sororities

Alpha Delta Pi
Alpha Phi
Alpha Xi Delta
Chi Omega
Delta Delta Delta
Delta Gamma
Kappa Delta
Kappa Kappa Gamma
Pi Beta Phi

Professional Honorary Societies

Alpha Kappa Psi (Economics)
Alpha Tau Alpha (Vo-Ag)
Delta Sigma Rho (Debate)
Kappa Phi (Methodist Women)
Mu Phi Epsilon (Music, Women)
Phi Alpha Delta (Law)
Phi Beta Pi (Medical)
Phi Chi (Medical)
Phi Delta Phi (Law)
Phi Mu Alpha Sinfonia (Music, Men)
Phi Upsilon Omicron (Home Economics)
Sigma Theta Epsilon (Methodist Men)
Theta Sigma Phi (Journalism, Women)

National and Local Student Organizations

Agriculture Council
Air R.O.T.C. Drill Team
Army R.O.T.C. Drill Team
Arnold Air Society
Associated Women Students
Beta Gamma Sigma
Block and Bridle Club
Canterbury Club
Der deutsche Verein
Dolphin Swimming Honorary
English Club
Fi Batar Cappar
Forestry Club
General Engineering Society
Geology Club
Hillel
Home Economics Club
Horitculture Club
Il Circolo Italiano
Independent Men's Association
Independent Party
Inter-Varsity Christian Fellowship
Journaliers
La Tertulia
McDowell Club
Men's Glee Club
Student Branches of the following:
  American Chemical Society
  American Institute of Chemical Engineers
  American Institute of Electrical Engineers
Newman Club
Orchesis
Panhellenic Council
Philosophical Society
Physical Education Club
Press Club
Recreation Majors Club
Sociology and Social Work Club
Student Council
Student Marketing Club
Mountaineer Poultry Club
Mountaineer Rifle Club
Men's Hall Council
Music Educator's National Conference
Collegiate Academy of Science
Collegiate F.F.A. Chapter
Cosmopolitan Club
Council of Fraternity Presidents
Dairy Science Club
University Dames Club
University 4-H Club
University Religious Council
University Young Democrats
Wesley Foundation Cabinet
Westminster Foundation
West Virginia Industrial Arts Club
Woman's Hall Center
Woman's Hall North
Woman's Hall South
Women's Glee Club
Women's Recreation Association
Writer's Forum

Young Men's Christian Association
Young Republican Club
Young Women's Christian Association
Student Party
Terrace Hall
Circle K Club
American Institute of Mining and Metallurgical Engineers
American Pharmaceutical Association
American Society of Agricultural Engineers
American Society of Civil Engineers
American Society of Mechanical Engineers
Institute of Aeronautical Sciences
Society for the Advancement of Management
Society of WVU Mining Engineers

Fraternity Advisers

Alpha Gamma Rho, Clark Butler; Alpha Phi Delta, Vito Brenni; Alpha Sigma Phi, Newton Baughman; Beta Theta Pi, Charles D. Thomas; Delta Tau Delta, Clyde Colson; Kappa Alpha, Dana Wells; Kappa Sigma, Paul R. Jones; Lambda Chi Alpha, Kenneth Carvell; Phi Delta Theta, William Mockler; Phi Kappa Psi, Kenneth Wood; Phi Kappa Sigma, Ralph White; Phi Sigma Delta, Victor J. Lemke; Phi Sigma Kappa, Donovan H. Bond; Pi Kappa Alpha, C. R. Ball; Pi Lambdo Phi, Edwin Duda; Sigma Chi, Allen Goodspeed; Sigma Nu, Edwin Kimble; Sigma Phi Epsilon, H. G. Wheat; Tau Kappa Epsilon, Ray O. Duncan; Theta Chi, K. C. Westover.

Sorority Supervision

Supervision of all sororities on campus is vested in the office of the Dean of Women.

Faculty Organizations

American Association of University Professors. The West Virginia University chapter of American Association of University Professors now has a membership of approximately one hundred and fifty. The present officers are J. G. Leach, president; William D. Barns, vice-president; Miss Helen K. Harrison, secretary.

Faculty Club. The Faculty Club of the University, organized on March 10, 1921, is composed of teaching, research, and extension staffs of the University. Members of the various departments of the State of West Virginia working under University control also are eligible. The purpose of the club is to promote friendliness, fellowship, and good will among its members and to encourage closer ties between faculty members of different colleges, schools, and departments. A program of social activities is conducted throughout the fall and winter semesters. The Faculty Club has headquarters in the Glasscock Annex.

Wisconsin Alumni Club. Graduates and former students of the University of Wisconsin are eligible to membership in this organization. It holds social meetings at which speakers from that university are heard. Dr. E. O. Roberts is the present president of the club, organized in 1937.

DISCIPLINE

Rules and regulations which students are required to observe are few, simple, and reasonable: civil and orderly conduct; reasonable diligence in performance of the work prescribed; and abstinence from vices.

All matters of discipline are in charge of the Director of Student Affairs and the Committee on Discipline. No student may be expelled without approval of the President of the University.

Student Marriages

If any student under the age of twenty-one years, who has not been previously married, intends to marry within the school year, he or she must obtain the consent of the parents[1] or guardian before such marriage shall be solemnized, in accordance with provisions of section 8, chapter 48, revised Official Code of West Virginia, 1931.

[1]Or of the parent living, or, if the parents be living separate and apart of the one to whom was accorded the custody of such person.

In order to insure obedience to both the letter and the spirit of this statute and the policy of the University such student must, not less than one week before said marriage, show satisfactory evidence to the office of the Director of Student Affairs that consent of the parents or guardian as required by the statute has been obtained.

In the event that such student does not make such showing to the office of the Director of Student Affairs, regardless of where the marriage ceremony is performed, he or she may be suspended, and may only be reinstated upon showing satisfactory reason to the Council of Administration why he or she failed to comply with this regulation.

Where both parties to the marriage are students and one has not complied with the above rule, both may be suspended as provided above.

EMPLOYMENT AND PLACEMENT SERVICE

Student Employment

Students desiring part-time work may register with Miss Cornelia Ladwig, Placement Adviser.

Until successful completion of one semester's University curricular work, freshmen should not attempt outside work unless absolutely necessary. Only the exceptional student can do so without danger to his scholastic status.

The Senior and Alumni Placement Service

The University Placement Service is maintained to provide assistance in vocational and job selection. This centralized service of the University does not end with placement of the student on his first job, but may be referred to at any time in the future.

The Placement Office is located on Hunt Street across from the Physics Building. In addition to registration procedures, which include counseling in the techniques of job application, this service analyses the changing market for graduates, assists alumni seeking promotion or change of position, cooperates with all individuals and agencies interested in placement, and is engaged in continuous research in the interest of improving these services. A meeting place is provided for students seeking jobs, visiting company and educational representatives, and faculty members whose comments are sought by employers.

A vocational library is maintained to assist any student having difficulty in deciding upon a career as well as to enable those graduating to review the kinds of opportunities available in their fields.

(The Placement Office cannot furnish credentials to commercial agencies.)

The Pharmacists' Register

A pharmacist's register for the benefit of both the employer and employee has been established by the College of Pharmacy. No charge is made for services rendered.

ADMISSION, REGISTRATION, FEES, RE-ADMISSION

ADMISSION TO UNDERGRADUATE COLLEGES AND SCHOOLS

Candidates for admission to the University must be at least sixteen years of age. They may be admitted either by examination or on the basis of official transcripts of record. Transcripts of secondary-school record must be sent by the principal directly to the Registrar of the University immediately after the student's graduation;[2] transcripts of college or university record must be sent by the registrar of the other institution directly to the Registrar of the University immediately after the student has completed his work in that institution. Transcripts must be received by the Registrar of the University at least three weeks prior to the beginning of the term or semester in which the applicant is interested. The transcripts received in support of applications for admission become the property of the University and are permanently filed in the office of the Registrar.

Applicants for admission who do not have transcripts showing graduation from accredited secondary schools on file in the office of the Registrar of the University or who

[2]In accrediting West Virginia secondary schools the University follows the classification made by the State Department of Education.

do not have official transcripts from colleges or universities previously attended on file in the office of the Registrar of the University, may, at the discretion of the Committee on Admissions, be permitted to register provisionally. If satisfactory transcripts cannot be obtained, the registration will be cancelled and the fees paid by the applicant will be returned in accordance with the University refund schedule. A provisional registration will not ordinarily be continued for a period longer than one week.

Conditional Admission. Students must make up all deficiencies before they can be classified as sophomores.

Credit Accepted from a Junior College

The maximum credit accepted from a junior college accredited by the North Central Association of Colleges and Secondary Schools or other regional accrediting association will not exceed seventy-two (72) semester hours, and credit will be allowed for lower-division courses only. No credit will be allowed for courses completed in a junior college subsequent to attainment of junior or higher rank by the student at the University.

Entrance Unit Defined

Requirements for admission to colleges, schools, and divisions of the University are stated in terms of units.

A unit in any subject represents the amount of work that may be done in a standard high school in a year of thirty-six weeks, with five recitation periods per week, of no less than forty minutes each. In courses in which laboratory work is required, from two to three periods of laboratory work are considered the equivalent of one period of recitation according to the amount of outside preparation required in connection with such work.

Graduates of accredited schools may receive credit for work certified with the understanding, however, that no student may enter any college, school or division until he has credit for 15 units, *i.e.*, the work of the standard four-year college preparatory course.

Prescribed and Elective Units

A. Graduation from high school and fifteen units of high-school work acceptable to the University are required for admission.

B. The following groups are required:
   (1) Four units in English[3]
   (2) Three units in a second subject
   (3) Two units in each of two other subjects

C. The work in "A" must include the following:

   For admission to all colleges and schools, 1 unit in elementary algebra.

   For admission to the College of Agriculture, in the case of students who elect agriculture or forestry as their major field of study—1 unit in elementary algebra and 1 unit in plane geometry.

   For admission to Agricultural Engineering—1 unit in elementary algebra, ½ unit in intermediate algebra, 1 unit in plane geometry, and ½ unit in solid geometry.

   For admission to the College of Arts and Sciences, in the case of students who intend to elect chemistry, geology, mathematics, physics, predental or premedical studies as their major field of study—1 unit of elementary algebra and 1 unit in plane geometry.

   For admission to the College of Engineering or the School of Mines—1½ units in algebra, 1 unit in plane geometry, and ½ unit in solid geometry.

   For admission to the College of Pharmacy—1 unit in elementary algebra, 1 unit in history, and 1 unit in science.

D. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

[3]A student may enter the University with 3 units in English and satisfy admission requirements by making a satisfactory grade on the English Placement Test, or by successfully completing English 0, or English 1.

In the College of Engineering, the School of Mines, and the Department of Agricultural Engineering, a student may enter with only 3 units in English if he also presents for entrance 2 units in one foreign language.

Subject	*Units*
English	4
Journalism	1
Speech	1
Foreign Languages[4]	
French	3
German	3
Greek	3
Italian	3
Latin	4
Spanish	3
Education	2
Music	2
Science[6]	
Biology[7]	1
Botany[7]	1
Chemistry	1
General Science	1
Geology	1
Physical geography	1
Physics	1
Physiology	½
Zoology	1
Commercial geography	½
Commercial law	½

Subject	*Units*
Mathematics, General	1
Algebra	2
Plane geometry	1
Solid geometry	½
Trigonometry	½
History and Social Science[5]	
History	3
Social Science	3
Drawing	
Free-hand drawing	1
Mechanical drawing	1
Vocational subjects (not to exceed 5 units)	
Agriculture	4
Home economics	3
Industrial training	3
Bookkeeping or bookkeeping and commercial arithmetic	2
Commercial arithmetic (alone)	½
Shorthand	2
Typing	1
Aeronautics	1
Art	1
Hygiene	1
Physical education	1

Advanced Standing Examination

Application for advanced standing on work of college grade for which college credit cannot be established on the basis of official transcript of record, should be made to the Registrar of the University not later than two weeks after the applicant's matriculation. Upon payment of the proper fee the Registrar will issue an examination permit. After examination, the department will report to the Registrar the University courses, if any, for which the applicant is entitled to credit.

Special Requirements for Admission

THE COLLEGE OF COMMERCE

Applicants seeking admission to the College of Commerce for the purpose of obtaining a degree must have earned at least 58 semester hours of required and approved elective courses in the lower-division curriculum at a grade average of not less than "C."

THE COLLEGE OF EDUCATION

Requirements for admission to the College of Education shall be the completion of 58 semester hours of approved college work, with an average of at least 2 grade points per credit hour. Candidates for a Bachelor's Degree in Education register for their first two years of work in the College of Arts and Sciences. Freshmen and sophomores who expect to enter the College of Education will indicate their intention when they register. Their studies will be directed by advisers for pre-education students. Such students should so order their courses of study as to satisfy requirements for junior standing and should be fulfilling requirements for the certification of teachers.

[4]One unit of Latin will be accepted. No less than 2 units of either French, German, Greek, Italian, or Spanish will be accepted unless sufficient additional work in that language is taken in college to complete a minimum of 2 units.

[5]A group of 3 units may be formed by combining 2 units of history with one unit of social science, or by combining one unit of history with two units of social science.

[6]A group of 2 or 3 units in science may be made by combining one unit each of any 2 or 3 of the following: biology. botany, chemistry, geology, physics, and zoology.

[7]If a student presents one unit in biology for admission, he may have credit for no more than ½ unit in either botany or zoology.

THE COLLEGE OF ENGINEERING AND SCHOOL OF MINES

In order to transfer from another college or school of the University, the following requirements must be met:

A. The applicant must have a grade-point average of 2.0 or higher for all college level courses (English 0, Mathematics 0, Mathematics 1, Mathematics 2, and Mathematics 7 count for entrance only).

B. The student must have a grade-point average of 2.0 or higher for all mathematics courses.

C. Applicants deficient in Solid Geometry may be admitted provided they present thirty semester hours, with a grade of "C" or higher, of transfer credit applicable toward their degree.

THE SCHOOL OF JOURNALISM

A candidate seeking admission to the School of Journalism with the view of obtaining a degree must have satisfied requirements for matriculation in one of the University undergraduate colleges and must have earned at least 58 semester hours of college credit. A student deficient in the physical education service program and military science will be required to take these subjects as soon as possible. During his freshman and sophomore years he should have completed satisfactorily all or most courses specified for prejournalism majors. A prejournalism student not maintaining at least a "C" average during his first two years in all college subjects is strongly advised not to enroll in the professional school.

THE COLLEGE OF LAW

All candidates for the Degree of Bachelor of Laws must present three-fourths of the number of hours required for a baccalaureate degree from an institution of approved standing of which hours not more than 10 per cent may be in non-theory courses. All work taken after June 1, 1947, must carry an over-all average of at least 2.3 grade points, or the equivalent. In computing such over-all average, 2 grade points will be deducted for each hour of "F." Work taken before June 1, 1947, will be acceptable provided it carries an average grade of "C," or one grade point per credit hour, or the equivalent. Non-theory courses in military science and physical education will not be counted in computing either hours of credit or grade points.

Any degree from an institution of approved standing will be regarded as satisfying the requirements for admission provided that, in the opinion of the Scholarship Committee of the College of Law, the degree satisfies the entrance requirements of the Association of American Law Schools.

Every applicant for admission must request the proper registrars to send directly to the secretary of the College of Law, before registration, a complete transcript of his record in each institution which he has attended after completion of his secondary education. Evaluation of all credentials is made by the Registrar of the University.

No applicant will be admitted who previously shall have attended another law school and who shall be ineligible to return to that school in good standing.

Applicants for admission to advanced standing must satisfy ordinary requirements for admission to the first-year class, must have successfully pursued the study of law in a school which is a member of the Association of American Law Schools and must have received credit for courses equivalent to those required of students in the College of Law. The extent of credit allowed for work done elsewhere is determined by the Scholarship Committee. A student will not be allowed credit for work carried in another law school, however, unless the student receives thereon a grade of "C" or its equivalent.

Any applicant for advanced standing may also, at the discretion of the faculty, be required to pass examinations in any or all courses presented for credit.

THE SCHOOL OF MEDICINE

In addition to high-school requirements, the applicant for admission to the School of Medicine must have credit for at least three years of work in a college of recognized standing. This must include 90 hours of credit exclusive of military science and physical education.

The 90 hours of credit include the following subjects and hours: English composition, 6 hours; physics, 8 hours; biological sciences, 12 hours (mainly zoology and

comparative anatomy); chemistry, 20 hours (including 6 hours organic); psychology, 3 hours; a modern foreign language, 12 hours (German or French preferred); Latin, 6 hours recommended if no high-school Latin has been taken.

Selection of Students. The number of students the Medical School can accommodate is strictly limited. Applications for admission are considered by the Committee on Admission of the School of Medicine, which selects those with the highest qualifications of scholarship and personal fitness. An important factor is the score of the applicant in the Medical College Admissions Test sponsored by the Association of American Medical Colleges and given at suitable times. Students should consult premedical advisors about this test or should write to Educational Testing Service, P.O. 592, Princeton, New Jersey. Applications for admission may be made as much as a year in advance of the opening date. Only *bona fide* residents of West Virginia may be considered for admission.*

Further details concerning entrance requirements to the School of Medicine may be obtained by writing to the Dean of the School of Medicine or to the Registrar of the University. A full statement concerning suggested premedical courses is to be found in Part II of this *Catalog*.

THE SCHOOL OF MUSIC

Students who meet University entrance requirements are admitted to the School of Music either by examination or on certificate from an accredited secondary school. Students majoring in Music will be expected to have acquired previously a background in the fundamentals of music and a fair ability in music reading. All students will be examined at least twice a year, in January and in May, to determine the progress made.

Students transferring to the School of Music from other colleges and schools will be required to present a minimum average of 2.0. Exceptions may be made in the case of first semester freshmen.

In the School of Music special provision may be made to permit talented individuals to take work in Applied Music without credit.

Advanced standing in applied music is given only by examination. Persons desiring such standing should enroll at the beginning of the semester, and after they have become thoroughly familiar with the requirements for each semester's work, they may apply to the Registrar of the University for a special examination in which they may prove their ability to meet the requirements as outlined.

THE COLLEGE OF PHARMACY

Students may be admitted to the College of Pharmacy either on transcript from an accredited secondary school, or as transfer students from other divisions of the University and from other colleges or universities. The number of students that can be admitted is definitely limited. Experience has shown that the successful applicants have been those who rank within the upper one-third of their high-school graduating class, in the case of those entering directly from high school, or who had an average of "B" or better in the case of those transferring to the College of Pharmacy with college credit.

Selection is made from the better-qualified students having applications and complete material on file by June 1. Because of the limited facilities of the pharmacy laboratory courses, students admitted with advanced standing are accepted with the understanding that the best possible schedule will be arranged at the time of admission.

Preference is given to residents of West Virginia.

Careful consideration is given to those personal qualifications which have a bearing upon the fitness of the applicant for the study and practice of pharmacy.

All applicants for admission to the College of Pharmacy are required to take a battery of tests which will be given on the campus the second Saturday in June just prior to the academic year the applicant desires to enter Pharmacy. The testing program will begin at 8:00 A.M. and will conclude by 12:00 M. Qualified applicants will be given appointments for interviews with members of the staff of the Registrar of the University and with members of the staff of the College of Pharmacy.

Transcripts of secondary-school records must be sent by the principal directly to the Registrar of the University immediately after the student's graduation; transcripts of college or university record must be sent by the registrar of the other institution directly to the Registrar of the University immediately after the student

*See footnote 17, page 66.

has completed his work in that institution. The transcripts received in support of applications for admission become the property of the University and are permanently filed in the office of the Registrar.

No student shall be permitted to complete the course in Pharmacy in less than three collegiate years in a college of pharmacy, regardless of the amount of credit offered for advanced standing. This is in accordance with the by-laws of the American Association of Colleges of Pharmacy.

Special Students

Persons who do not desire to become candidates for a degree may, by permission of the Committee on Admissions and the dean of the college which they desire to enter, be admitted as special students, subject to the following provisions:

1. Special students must be twenty-one years of age.
2. Special students must satisfy at least 9 units of the requirements for admission, including 2 units of English.
3. Every application for admission as a special student must be presented in writing to the Committee on Admissions and must set forth fully the applicant's reason, together with a detailed statement of studies he desires to pursue.
4. Special students are subject in all respects to the usual rules relating to registration and scholarship. They may be assigned to classes for which they apply, it being understood, however, that admission to any class rests entirely with the instructor in charge, and further, that admission to any class when so granted does not necessarily imply credit for prerequisites.
5. In the College of Law, students with less than the academic credit required of candidates for the Degree of Bachelor of Laws will be admitted as special students only if:

(a) They have credit for no less than two years of work of collegiate grade in an institution of approved standing;

(b) They are at least twenty-three years of age;

(c) There is good reason, acceptable to the Scholarship Committee, for thinking that their experience and training have specially equipped them to engage successfully in the study of law, despite the lack of the required college credit; and

(d) The number of such special students admitted each year shall not exceed ten per cent of the average number of students admitted by the College of Law as beginning regular law students during the two preceding years.

VETERANS OF WORLD WAR II OR KOREA

The University recognizes that men and women from the Armed Forces who enter college require individual and personalized guidance in order to facilitate their entrance into the University and to aid their adjustment to University life. The Veterans' Coordinator is available for consultation and help in the solution of personal problems which may arise in the transition to civilian student life.

Information regarding educational opportunities made possible at the University through provisions of the Service Men's Readjustment Act of 1944 (G.I. Bill of Rights), Public Law 550, and the Vocational Rehabilitation Program of the Veterans Administration (Public Law 16) may be obtained from the Veterans' Coordinator by personal conference or by mail.

Veterans may be admitted to the University by the Committee on Admissions by any of the following methods.

1. Graduation from an accredited preparatory school.
2. Presentation of 15 units of high-school work without graduation.
3. Advanced standing from other accredited colleges or universities.
4. Evidence of sufficient maturity and ability to do college work furnished by the use of United States Armed Forces Institute tests or American Council on Education tests. Training of any kind received in the service will be considered, and, if possible, evaluated for entrance or college credit.
5. Veterans who present at least 9 units of entrance credit may be admitted as special students.

An honorably discharged veteran of World War II who has successfully completed basic training in the Armed Forces of the United States shall be excused from any additional work in Basic Military and in the Physical Education General Program upon submission of due proof thereof to the Registrar of the University.

ADMISSION TO THE GRADUATE SCHOOL

Applicants holding Bachelor's degrees from West Virginia University or from other accredited institutions may be admitted to the Graduate School. Applications for admission to the Graduate School must be filed with the Registrar of the University who will forward the applications to the Dean of the Graduate School. The applicant must request the registrar of the college or university previously attended to send an official transcript directly to the Registrar of the University. The applications and transcripts should be received by the Registrar at least one month in advance of registration. Application forms may be obtained from the Registrar of the University.

Admission to the Graduate School does not constitute acceptance by the major department. It merely grants permission to seek admission to that department.

The Dean of the Graduate School and the head of the Department in which the student desires to do his major work will advise him concerning departmental prerequisites for candidacy for an advanced degree and major and minor advanced degree requirements.

Undergraduate deficiencies, generally unsatisfactory background, or lack of adequate facilities in a given department may prevent acceptance by the department. In such instances, the student must either seek acceptance by another department or register as a " special" graduate student. A "special" graduate student is not a candidate for an advanced degree.

Eligible students who wish to further their education without reference to higher degrees may be admitted to the Graduate School and may elect courses for which they can satisfy prerequisites.

Graduate Degrees

Graduate degrees offered by departments in the Univeristy which have been approved for graduate work are as follows:

Master of Agriculture (M.Agr.)
Master of Arts (A.M.)
Master of Home Economics (M.H.E.)
Master of Music (Mus.M.)
Master of Science (M.S.)
Master of Science in Chemical Engineering (M.S.Ch.E.)
Master of Science in Civil Engineering (M.S.C.E.)
Master of Science in Electrical Engineering (M.S.E.E.)
Master of Science in Mechanical Engineering (M.S.M.E.)
Master of Science in Engineering of Mines (M.S.E.M.)
Master of Science (Home Economics Education) M.S. (H.E.Ed.)
Master of Science (Biochemistry)
Master of Social Work (M.Soc.Wk.)
Doctor of Philosophy (Ph.D.)
Doctor of Education (Ed.D.)

Professional Degrees

The following professional degrees are conferred upon graduates of the College of Engineering and the School of Mines of West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis, and an oral final examination.

Aeronautical Engineer (A.E.)
Chemical Engineer (Ch.E.)
Civil Engineer (C.E.)
Electrical Engineer (E.E.)
Mechanical Engineer (M.E.)
Engineer of Mines (E.M.)

REGISTRATION

Persons who are not registered as students in the University and who are not members of its administrative or teaching staffs shall not be admitted to regular attendance in University classes.

All students are expected to register on days set apart for registration at the beginning of each semester or term of the University. All freshmen are required to take intelligence, placement, medical, and physical tests.

Immediately after completion of their registration, all students are expected to pay their fees at the Comptroller's desk in the Field House.

West Virginia Board of Education Regulation for Certification of Teachers

One hundred semester hours of the one hundred twenty-eight required for certification shall be completed in regularly scheduled campus courses. The twenty-eight hours of permissible nonresidence courses may be earned by extension, home study (correspondence), radio, television, special examinations and/or army service. Eighteen of the twenty-eight hours may be applied to a Second Class Elementary Certificate and twelve hours to a Third Class Elementary Certificate. Any teacher who may be penalized by the revised ruling because of credits earned before June 1, 1954, may be certificated under present regulations.

Visitors

Full-time students who are presently registered in the University may attend classes as visitors, provided they obtain the written permission of their advisers and of the instructors in classes they desire to visit. Members of the administrative or teaching staffs, or other regular employees of the University, may attend classes as visitors provided they obtain the written permission of the heads of their departments and of the instructors in the classes which they desire to visit.

No record is kept of the work and attendance of persons admitted to classes as visitors and no credit is given for their work in such classes.

Persons eligible to attend classes in the University as visitors may obtain the proper blanks from the Registrar.

Auditors

Students may enroll in courses without working for grade or for credit by registering as auditors and by paying full fees. Credit or audit status must be indicated at the time of registration. *No change in status from audit to credit or from credit to audit will be made at any later date.*

Late Registration

No student will be permitted to register in the University after the eighteenth day of a semester or the ninth day of either term of the Summer Session, without the special permission of the dean or director of the college or the school which he proposes to enter. No student registering late will be permitted to enroll for more hours of work than the number of weeks in actual attendance without the permission of the Committee on Scholarship of the college or school concerned.

Withdrawal from the University

A student who desires to withdraw from the University must obtain a withdrawal card from the office of the Registrar, 103 Administration Building. Withdrawal procedure will be explained to him when he obtains this card.

Students who withdraw from the University without permission will receive at the end of the semester a grade of "F" (failure) in each of the subjects for which they are registered and will be indefinitely suspended from the University.

Students who desire to drop part of their work may withdraw from classes in which they are enrolled with a grade of "W" at any time prior to the end of the second week following the date set for mid-semester reports. Withdrawal permits must be approved by the adviser and filed with the Registrar. If such withdrawal reduces the student's hours below the required minimum, the permit must be approved by the Scholarship Committee. Withdrawals after the above date will be permitted only in exceptional cases and must be approved by the Scholarship Committee of the college or school in which the student is registered.

Return of Books to the Library

Students must present a signed statement from the Librarian that they have returned all books and paid all library fines incurred before they withdraw. No

student will be allowed to graduate before paying all fines and returning all Library books.

Re-entry after Withdrawal

Students required to withdraw from one college or school of the University because of failure in their work and permitted to transfer to another unit of the University may not again register in the college or school in which they were originally registered without the consent of the Scholarship Committee of that college or school.

College Credit Defined

A college credit or semester hour represents the amount of work done in one semester in one recitation hour with two preparation hours a week. From two to three hours of laboratory work are considered equivalent to one hour of recitation, according to the amount of outside work assigned in connection with the laboratory hours.

Adviser

The college or school in which a student is enrolled shall have jurisdiction over the course of study of that student. Each student upon entering the University is assigned to an adviser, whose duty it is to assist the student in his registration, to keep a record of his work, and to report his registration and standing to the Registrar as required. The adviser approves the student's program of studies, sees that all prescribed work is taken in proper sequence, approves the selection of elective courses, and assists the student generally in planning his course of study so that he may proceed systematically and without conflicts. Changes in registration must always have the approval of the adviser. The student will look to his adviser for guidance in all matters pertaining to his work.

Maximum and Minimum Work

The maximum and minimum number of hours per semester as well as the maximum number of hours per year for which a student may register during the regular academic year of the University are as follows:

	Minimum Hours per Semester	*Maximum Hours per Semester*	*Year*
Agriculture	14	20	..
Arts and Sciences	14	20	..
Commerce	12	18	..
Education	..	18	36
Engineering and Mechanic Arts	12	20	..
Forestry	14	20	..
Home Economics	14	18	34
Journalism	14	18	36
Law	13	16	..
Medicine	17	20	..
Mines	12	20	..
Music	14	20	..
Pharmacy	14	20	..
Physical Education and Athletics	14	20	..

Work of the Summer Session is equivalent in character to that of the regular year. One hour's credit per week is a normal load for either term; but in order to facilitate scheduling of courses, undergraduate students may carry 7 hours if the periods are seventy-five minutes in length.

A student desiring to do irregular work, more or less than the prescribed number of hours in any college, must obtain permission from the Committee on Scholarship in his college or school. This permission is not valid until it has been reported to the Registrar for record.

Substitution for Required Courses

A student who desires to substitute another course for any course prescribed in his curriculum or required for the degree toward which he is working, must obtain

permission for such substitution from the Committee on Scholarship in his college or school, but there can be no substitution from group to group.

REQUIREMENTS FOR DEGREES

Candidates for degrees are eligible for graduation upon completion of the requirements, in the college or school in which they are registered, which were in effect at the time of their first registration in that college or school, provided they apply for graduation within a period of seven years from the time of their first registration. Students who fail to complete the requirements for graduation within seven years from their first registration in the college or school in which they are candidates for degrees, shall satisfy the requirements in effect at the time they apply for graduation.

All University degrees are conferred by the Board of Governors upon recommendation of the faculties of the various colleges and schools. Degrees are granted at the close of the semester or Summer Session term in which the students complete their work.

Candidates for degrees to be conferred at the close of the second semester must be present in person to receive their degree unless excused by the deans or directors of their colleges and schools. No individual may be exempt from the provisions of this University regulation except by official action of the Board of Governors of the University.

Baccalaureate Degrees

CREDITS AND GRADE POINTS REQUIRED

Less than 6 hours in an ancient or modern language will not be counted toward any University degree, diploma, or certificate unless work in the same language has been offered for entrance.

Six hours of English composition and rhetoric (English 1 and 2) are required of all candidates for the Bachelor's Degree in all colleges and schools of the University.

Eight hours of basic military science and tactics or air science are required of all freshmen and sophomore men not specifically exempt.[8]

Enrollment in the advanced courses Army ROTC or Air Force ROTC is elective on the part of those students who may be selected by the President of the University and the Professor of Military Science and Tactics or the Professor of Air Science, under regulations prescribed by the Secretary of the Army or the Secretary of the Air Force. Each student who shall have been enrolled in either advanced course shall complete that course and, if tendered, accept a commission in a reserve component of the Army or the Air Force upon completion of the course as a prerequisite for his graduation from the University, unless he is excused from this requirement by the authority of the Secretary of the Army or the Secretary of the Air Force.

Two hours of physical education for men (P.E. 1 and 2), to be taken during the first year in residence, and four hours of physical education for women (P.E. 3-18, 101-102), to be taken during the first and second years in residence, are required for graduation, except in the case of students entering with advanced standing amounting to 58 semester hours or more.

Each undergraduate who began college work after June 1, 1952, must pass a proficiency examination in English, after the beginning of his junior year in order to qualify for graduation. He shall take the examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as necessary. The examination shall be administered by the English Proficiency Board.

Each baccalaureate degree is conditioned upon the completion of a specified number of semester hours of credit. For a tabular statement of the number of credit hours required for each degree, see the last column on page 62 under the caption "Classification of Students."

All divisions of the University require minimum standards of scholastic quality. Grade points are computed only on grades earned at West Virginia University (including Potomac State College of West Virginia University). To be eligible for graduation, a student must have an average of "C" or an average of two grade points on all work for which he received grades (except "W" and "WP"). The College of Education, in addition to the general average of two grade points per credit hour in all subjects, requires an average of two grade points per hour of credit in Education and in each teaching field.

It is the student's responsibility to keep informed on his grade-point standing. This information may be obtained at any time from the dean or director of the college, school, or division in which the student is registered.

[8]See pages 17-18-19.

GRADUATION WITH HONORS AND WITH HIGH HONORS

Effective June 1, 1949, the University established the practice of awarding "Honors" and "High Honors" to qualified students who are candidates for their initial baccalaureate degrees. (Candidates from the College of Law are excluded.) The following regulations govern these awards:

1. The computation of the average shall begin with the student's penultimate term or semester and continue in reverse chronological order until at least 54 semester hours have been counted. If, in order to total the required number of hours, it is necessary to include any part of a semester or term the work of the whole semester shall be included.
2. No graduate shall be eligible for honors unless he shall have completed at least half of the semester hours required for his degree in West Virginia University.
3. The senior year must be at the University.
4. No graduate shall be eligible for honors if his grade-point average for his final semester or term is less than 3.0.
5. Subject to the above conditions, all candidates for a baccalaureate degree whose average, as shown by the portion of the work used, is 3.6 or above, shall be graduated with "High Honors." All those whose average is less than 3.6 but 3.3 or above, shall be graduated with "Honors."
6. Fitting recognition of graduation with honors shall be made on the candidate's diploma and on the commencement program.

REQUIREMENTS AS TO RESIDENCE

Students who come to the University from other colleges or universities are advised to make the transfer not later than the beginning of their third year and in no case will a student who matriculates in the University later than October 1 in any year be permitted to receive a degree at the next commencement.

In special cases students who desire to leave the University at the close of their third year to enter another institution with the purpose of taking a combined course leading to two degrees or of preparing for graduate study may, upon application beforehand to the Committee on Scholarship of the college or school in which they are registered, be permitted to do the work of the fourth year, or a part thereof, at such other institution and to receive the Bachelor's Degree from the University upon the presentation of the proper credits.

Except in the College of Law, no student will be granted a Bachelor's Degree by the University who has not done either a total of 90 hours or the last 30 hours of his work in actual residence at the University.

No student may receive the Degree of Bachelor of Laws without at least three semesters in residence at the College of Law and the successful completion of courses aggregating at least one-half of the total number of hours required for graduation.

WORK DONE OUT OF RESIDENCE

It is the policy of the University to discourage the taking of regular residence courses in absentia. In the cases of courses begun at the University and not completed because of illness or for other acceptable reasons, however, permission to complete the work in absentia under the direction of the regular University instructors giving the courses may be granted by the Committee on Scholarship, but in such case credit should be given only upon a report of the grade of no less than "C" on final examination.

This regulation does not apply to University extension courses.

CREDIT IN CORRESPONDENCE WORK

Credit up to a maximum of 30 semester hours for work completed by correspondence in non-laboratory courses will be accepted by the University when such work is given by accredited colleges or universities that accept this work for credit toward their own degrees and whose residence work is accepted by West Virginia University.

CLASSIFICATION OF STUDENTS

The following table shows the number of semester hours required for classification as second-year, third-year, and fourth-year students and for graduation, according to the curricula in the several colleges, schools, and divisions. First-year students must satisfy the requirements for admission as set forth on pages 51 to 53 inclusive.

COLLEGE AND DEGREE	HOURS REQUIRED TO CLASSIFY AS Second-Year Student	Third-Year Student	Fourth-Year Student	Required for Degree
AGRICULTURE, FORESTRY, AND HOME ECONOMICS				
B.S. (Bachelor of Science)	26	64	100	144
B.S. in Agriculture (B.S.Agr)	26	64	100	144
B.S. in Forestry (B.S.F.)	30	70	110	150
B.S. in Home Economics (B.S.H.E.)	25	58	92	128
AGRICULTURE & ENGINEERING				
BS. in Agr'l Eng'g (B.S.Agr.E.)	30	72	112	148
ARTS AND SCIENCES				
Associate in Arts (A.A.)	25	..	..	64
Bachelor of Arts (A.B.)				
Regular	25	58	92	128
Premedical	32	58	96	128
Combined (Medicine)[9]	32	58	96	132
Combined (Law)[10]	25	58	96	124
BACHELOR OF SCIENCE (B.S.)				
Geology	32	58	99	132
Chemistry	34	58	103	136
Combined (Medicine)[11]	32	58	96	132
Nursing Education	25	58	92	128
Social Work	25	58	92	128
COMMERCE				
B.S. in Bus. Ad. (B.S.Bus.)	..	58	92	128
B.S. in Ec. (B.S.Ec.)	..	58	92	128
EDUCATION[12]				
B.S. in Elem. Educ. (B.S.El.Ed.)	..	58	92	128
B.S. in Secondary Educ. (B.S.Sec.Ed.)	..	58	92	128
ENGINEERING[13]				
Bachelor of Science	27	60	94	133
B.S. in Aero. Eng'g (B.S.A.E.)	30	72	112	148
B.S. in Chem. Eng'g (B.S.Ch.E.)	30	72	112	148
B.S. in Civil Eng'g (B.S.C.E.)	30	72	112	154
B.S. in Elec. Eng'g (B.S.E.E.)	30	72	112	148
B.S. in Mech. Eng'g (B.S.M.E.)	30	72	112	154
JOURNALISM				
B.S. in Journalism (B.S.J.)	..	58	92	128
LAW				
Bachelor of Laws (LL.B.)	21	50	..	81
MEDICINE				
Bachelor of Science (B.S.)				
Medical Technician	25	58	100	135
MINES				
B. S. in Eng'g of Mines (B.S.E.M.)	30	72	112	154
MUSIC				
Bachelor of Music (B.Mus.)	30	64	102	136

[9]Fourth year in the School of Medicine.
[10]Fourth year in the College of Law.
[11]Third and fourth years in the School of Medicine.
[12]For the Degrees of Bachelor of Science in Education, at least 10 hours of residence work must be in Education.
[13]Students matriculating with 58 or more hours of credit may graduate with 148 hours, since physical education is not required of these students.

COLLEGE AND DEGREE	HOURS REQUIRED TO CLASSIFY AS Second-Year Student	Third-Year Student	Fourth-Year Student	Required for Degree
PHARMACY				
B.S. in Pharmacy (B.S.Pharm.)	30	70	108	142
PHYSICAL EDUCATION AND ATHLETICS				
Bachelor of Science in Physical Education (B.S.P.E.)	28	58	92	128
Bachelor of Science in Recreation (B.S.Rec.)	28	58	94	130

EXAMINATIONS AND REPORTS

COURSES

As a rule courses extend through one semester only.[14]

EXAMINATIONS

MID-SEMESTER AND FINAL EXAMINATIONS

In practically all courses offered in the University, the student receives both a preliminary or mid-semester grade and a final grade. The mid-semester standing of a student is based on the daily recitation grades and a special test given during one or more regular recitation periods. Mid-semester grades are not entered on the Registrar's records. The final grade is based on the class standing for the entire semester and on a written final examination to which a special period of two or three hours is devoted, except that the manner of determining the final grade of seniors and graduate students provisionally approved for graduation at the end of the semester or term is left with the head of the department. Any student not satisfied with his grade, however, has the right to take the examination with his class if he so desires.

EXAMINATION PERIODS

Mid-semester examinations are held during the week immediately preceding the day of the mid-semester reports as set forth in the University Calendar. Final examinations are held during the last week of each semester of the academic year, and during the last two days of each term of the Summer Session.

ABSENCE FROM EXAMINATION

Students are required to take all regular examinations. If a student attends a course throughout the semester and is absent from examination without permission, the instructor shall count the examination as zero and report the final grade as "F." If, in the opinion of the instructor, absence of the student was for satisfactory reason, the fact will be recorded on the student's class ticket, the grade "I" will be returned, and the student may, upon application to the instructor, take the examination at a later date.

INCOMPLETES AND FAILURES

If the final grade of a student in any course is "F," the student must take the course again if he desires to receive credit for it. The grade of "I" is given when an instructor believes that the course work is unavoidably incomplete or that a supple-

[14]In the College of Law all courses extend either the entire year or through one semester. No credit will be given for less than an entire course except by special order of the Committee on Scholarship. Grades given at the end of the first semester in courses extending throughout the year are merely indicative of the quality of work done by the student to that point and do not give credit for the part of the course so far pursued. Such first-semester grades may be considered in determining the final grade.

mentary examination is justifiable. The grade of "I" can be removed by examination or completion of the work of the course. A grade of "I," not removed within the following semester or the next semester in which the student is in residence, becomes a failure unless special permission is granted by the appropriate Scholarship Committee to postpone removal.

Reports

Mid-semester grades are reported to students' advisers and to deans or directors but are not recorded in the office of the Registrar.

Final grades are reported by instructors directly to the Registrar's office. Final grades must be in the hands of the Registrar within 48 hours after the closing hour of the examination. This rule also applies to the final grades of all students registered in other colleges or schools of the University who are enrolled in law courses.

The final standing of all seniors provisionally approved for graduation shall be reported by their instructors to the deans or directors of their colleges or schools, and the final standing of all graduate students provisionally approved for graduation shall be reported to the Dean of the Graduate School not later than the last day of recitation of the second semester. For this purpose special report cards are supplied by the Registrar.

A report of each student's work is made at the close of the semester or Summer Session to the student himself and to his parents or guardian.

Scholastic Standing and Grade Points

GRADING SYSTEM

A—excellent (given only to students of superior ability and attainment)
B—good (given to those students who are well above the average but who are not in the highest group)
C—fair (average students)
D—poor but passing[15]
F—failure
I—incomplete
W—all withdrawals prior to the end of the second week following the date set for mid-semester reports
WP—withdrew passing subsequent to the end of the second week following the date set for mid-semester reports
WF—withdrew failing subsequent to the end of the second week following the date set for mid-semester reports
X—auditor, no grade and no credit

GRADE POINTS

The grade-point average is computed on all work for which the student has registered, except for the courses with grades of "W" and "WP," and is based on the following grade-point values:

A	B	C	D	F	WF	I	X
4	3	2	1	0	0	0	0

Provided, however, that when a student receives a grade of "I" and later removes the incomplete grade, his average grade-point standing shall be calculated on the basis of the new grade.

Students are permitted to re-register at West Virginia University in any course for which a grade of "D" has been received at West Virginia University. In such cases the second grade shall supersede the first, provided it is not lower than "D."

[15]Veterans of World War II or Korea may register for courses in which they have a grade of "C" or higher, but no credit will be given for the new listing

Absences

Students shall attend all classes, including laboratory sessions, for which they are registered, unless prevented from doing so by illness, injury, authorized University activities, or other reasons approved by their deans or directors.

A student who must be absent from class for an extended period of time shall inform his adviser or his dean or director.

Each college or school shall make suitable and effective provisions for handling absences.

Probation and Suspension

Any student whose mid-semester grades are below passing in courses amounting to more than half of the total number of semester hours for which he is registered shall be placed on probation for the remainder of the semester. The terms of probation are determined by the respective scholarship committees.

Any student whose grades at the end of any registration period are below passing in courses amounting to more than half the total number of semester hours for which he is registered shall be suspended from the University. A freshman subject to the operation of this rule at the end of his first registration period in residence shall be placed on probation for the succeeding registration period.

All actions of the Committee on Scholarship and of the dean or instructor of the college or school that affect the standing of a student shall be reported by the dean or director to the Registrar.

Duties of Instructors

Each instructor shall be responsible for keeping an attendance record of students in his classes and shall report an excessive number of absences to the student's dean or director and his adviser.

Duties of Advisers

All advisers, upon receipt of reports of excessive numbers of absences, shall have conferences with the students concerned and shall make such recommendations and adjustments as are desirable and feasible. If the adviser does not find a satisfactory solution after a conference with the student, he shall report the case to the dean or director of his college or school.

Duties of the Committee on Scholarship

The Committee on Scholarship shall have authority to proceed according to its best judgment in regard to delinquent students referred to it for its consideration.

All orders of the committee shall become effective when approvd by the dean or director of the college.

In the exercise of its authority the Committee shall not suspend a student during a semester except for willful neglect and in cases where the student's class grades are so low that further class attendance would be a waste of time. No suspension shall become effective until approved by the dean of the college.

SEMESTER FEES IN THE COLLEGES AND SCHOOLS

(See footnotes 16, 17, 18)

	Full Time		Part Time Per Credit Hour	
	Resident	Non-Resident	Resident	Non-Resident
Agr., For., Home Ec. Arts and Sciences Commerce Engineering Journalism Mines Physical Education and Athletics	$45.00*	$220.00*	$3.00	$16.00
Law	$70.00*	$245.00*	$5.00	$17.00
Medicine	$132.00*	$350.00*	$8.00	$26.00
Medical Technology (Jr. and Sr. Years)	$70.00*	$245.00*	$5.00	$17.00
Music	$80.00*	$255.00*	$5.00	$19.00
Pharmacy	$70.00*	$245.00*	$5.00	$17.00

*Includes Contingent Fee ($30); Student Activity Fee ($7); Health Service Fee ($3), Mountainlair Fee ($2), and Student Union Building Fee ($3.00).

SUMMER SESSION FEES

	Resident	*Nonresident*
Health Service fee, per term	$1.00	$1.00
Mountainlair fee, per term	.75	.75
Student Union Building fee, per term	1.00	1.00
Tuition, per semester hour	4.00	8.00

16A full-time student is one who is registered for 10 or more semester hours of work each semester of the regular academic year, or 4 or more semester hours of work during each term of the Summer Session. A full-time student during the regular academic year receives an Identification Card which entitles him to admission to all athletic events. A full-time student during the regular academic year or during the Summer Session is entitled to free medical consultation and advice from the University physician. A moderate charge is made for room calls, X-rays, special laboratory tests, drugs furnished by the University Pharmacy, minor operations, treatment of fractures and dislocations, and intravenous treatment.

17No student shall be considered eligible to register in the University as a resident student who has not been domiciled in the State of West Virginia for at least twelve consecutive months next preceding college registration. No nonresident student may establish domicile in this State, entitling him to reduction or exemptions of tuition, merely by his attendance as a full-time student at any institution of learning in the State. A minor student whose parents acquire a West Virginia domicile after the student's original registration will be deemed to have the domicile of his parents and become entitled to pay resident fees. Moreover, any student who has orignially paid nonresident fees may become entitled to pay resident fees, if after an interim of non-attendance or otherwise he has established a valid legal domicile in this State at least twelve months prior to his registration in the University. In any event, the appointment of a guardian for a minor student temporarily resident in West Virginia, other than the designation of a natural guardian, shall not in and of itself operate to establish a West Virginia domicile for such student.

18A part-time student is one who is registered for fewer than 10 semester hours per semester during the regular academic year; or for fewer than 4 semester hours per term during the Summer Session.

FEES AND EXPENSES

(Subject to change without notice)

Fees

All fees are due and payable at the Comptroller's desk in the Field House on the days of registration.[19] Fees paid after registration day must be paid at the Comptroller's Office in the Administration Building. Students registering pay the fees shown on the opposite page.

Remission of Fees

No tuition or fees, except those payable to State Special Funds or those charged to Special Services, shall be charged or collected by the University from any student registered in the Graduate School while such student is employed by the University on a regular appointment. Any such student who has held a regular University appointment for the second semester shall also be entitled to exemption from these fees for the Summer Session immediately following his term of appointment.

The wife (or husband) of any person employed by the University on a regular appointment shall be charged the same fees as resident students. The dependent children of the person so employed shall also be charged the same fees as resident students.

Special Fees

Late-registration fee (non-refundable)[20]	$ 2.00
Graduation fee[21]	10.00
Professional Engineering degree (including $10 graduation fee)	25.00
Student's record fee[23]	1.00
Certificate in Home Economics	2.00
Associate in Arts Degree	2.00
Special extra fee for flight training:	
A.E. 171	100.00
A.E. 172	100.00
A.E. 173	100.00
A.E. 175	100.00
A.E. 176	100.00
A.E. 177	100.00
Change in registration fee (after 8th day)	1.00
Fee for examination for entrance credit, per unit	1.00
Fee for examination for advanced standing	3.00
Fee for General Education Development tests (high-school level)[23]	15.00
Social work certificate	2.00
Fee for reinstatement of students dropped from the rolls	3.00
Fee for examination of candidates for graduate degrees[24]	1.00
Student locker fee (men)	2.50
Student locker fee (women)	2.00
Diploma replacement fee	5.00
Student Identification Card Replacement Fee	1.00
Correspondence Course in Guided Reading (per course)	1.00

Fee for Extension Work

A fee of $8 per semester hour is charged for each extension course offered.

[19]Students who have not paid their fees before the close of office hours of the second Saturday following the opening of a semester or a summer term, shall be dropped from the rolls of the University, and the Registrar shall notify their instructors that their class cards are to be withdrawn.

[20]Charged when students register after registration dates announced in the University Calendar, Part IV.

[21]The graduation fee is payable by all students at the beginning of the semester or term in which they expect to receive their degrees.

[22]One transcript of a student's record is furnished by the Registrar without charge. This fee is charged for furnishing an additional transcript.

[23]If the applicant applies for admission to and registers in the University within twelve months of the date for his qualifying for the test, a ten dollar credit shall be established for him.

[24]For graduate students not otherwise enrolled at time of final examination.

Special Fees in Medicine and Pharmacy

Students in colleges and schools other than the College of Pharmacy and the School of Medicine who register for courses in the College of Pharmacy or the School of Medicine shall be required to pay a fee of $4 per credit hour for such courses in addition to the fees charged in the colleges or schools in which they are registered.

Regularly enrolled students in the College of Pharmacy are given the privilege of enrolling without additional fees in required Pharmacy courses offered in the School of Medicine.

Regularly enrolled premedical students in the College of Arts and Sciences are given the privilege of registering for the following courses in the College of Pharmacy without additional charge: Pharmacy 2, Pharmacy 3, Pharmacy 9, Pharmacy 106, and Pharmacy 107.

School of Music Fees

1. *Students registering for a degree in the School of Music*:
Resident students, $80 per semester. Non-resident students, $255 per semester.

2. *Special or part-time students registering in the School of Music*:
(a) Class courses—Special or part-time students registered in the School of Music for class courses shall pay $3 per credit-hour for these courses.
(b) Applied Music—Special or part-time students registered in the School of Music for courses in applied music shall pay tuition fees as follows:

	LESSONS PER WEEK	
	One	*Two*
Band and orchestra instruments	$35	$55
Piano	35	55
Pipe-Organ	35	55
Voice	35	55
Instrument Classes	$5	per semester
Ensemble:		
1. Accompanying	$5	per semester
2. Chamber music	$5	per semester

(c) Special Work in Another College or School—Special or part-time students registered in the School of Music who take special work in another college or school of the University shall pay music fees plus the regular rate per credit-hour for the work they are taking in another college or school.

3. *Students Registered in Other Schools and Colleges.*
(a) Class Courses—Students registered in other schools and colleges of the University may enroll for class courses in the School of Music without paying additional fees.
(b) Applied Music—Students in other schools and colleges of the University who enroll for one or more courses in applied music shall pay the fees required in the school or college in which they are registered plus music fees as follows: for courses in voice, piano, pipe-organ or band and orchestra instruments, one lesson per week $20; two lessons $35.

4. *Piano and Pipe-organ Practice.*
(a) Piano for practice—One hour a day, $6 per semester; two hours, $10; three hours, $14; four hours, $18.
(b) Pipe-organ practice—One hour a day, $10 per semester.
(c) Band and orchestra instruments—Rental fee $2.50 per semester.

Deposits

The deposits required are as follows: breakage deposit in chemistry, $7 to $12; breakage deposit for students enrolled in medical technology course and in the School of Medicine, $10; for students enrolled in other colleges and schools of the University electing courses in medical technology or medicine, $5 for one laboratory course and $10 for more than one course; military science deposit, $10; breakage deposit in pharmacy, $10.

Refunding of Fees

A student who withdraws regularly[25] from the University may arrange for a refund of fees by submitting to the Comptroller approval by the Registrar of the refund. Semester fees will be returned in accordance with the following schedule:

	Amount of Refund
During first and second weeks	All fees less $2.50
During the third and fourth weeks	80% of fees
During the fifth and sixth weeks	60% of fees
During the seventh and eighth weeks	40% of fees
Beginning the ninth week	No refunds allowed

Campus Parking Regulations, Fees and Charges

Students are required to observe all rules and regulations of the University with respect to the parking of motor vehicles on the campus, the fees for parking permits, and the fines or charges imposed for the violation of such rules and regulations. A student who fails to pay any such fine or charge imposed on him during any semester or term will be denied the right to graduate or to reregister, as the case may be, as well as the right to obtain a transcript, until full payment is made.

COST OF AN ACADEMIC YEAR'S WORK

A student's textbooks will cost approximately $50 a year, and his registration fees $90 to $264 is he is a resident; or $440 to $700 if a nonresident. Students in engineering will use drawing instruments costing from $17 to $26. The laboratory breakage deposit required ranges from $7 to $12, a part of which is usually returned at the end of the year. In military and air science a $10 deposit is required to cover military equipment in the custody of the student, practically all of which is returned to the student when he accounts for his equipment. Board and room may be obtained at from approximately $459 to $549 a year. A student's laundry will cost from $25 to $35 a year. Traveling expenses, clothing, and other miscellaneous items will depend largely upon the tastes and habits of the individual student. In general, however, it may be said that the legitimate cost of a 9-month term of residence at the University ranges from $700 to $1,100 a year.

[25]To withdraw regularly a student must apply to the Office of the Registrar for permission. The withdrawal permit must be approved by the student's adviser and the dean of the college and accepted by the Registrar.

Part II

CURRICULA AND COURSES

ABBREVIATIONS

The following abbreviations are used in the announcements of courses:

I—a course given in the first semester.
II—a course given in the second semester.
I, II—a semester course given in each semester.
I and II—a course given throughout the year.
S—a course offered in the Summer Session.
SI—a course given in first term of the Summer Session.
SII—a course given in second term of the Summer Session.
hr.—number of credit hours per course.
conc.—concurrent registration required.
PR—prerequisite.

PLAN FOR NUMBERING COURSES

For convenience each course of study is designated by the name of the department in which it is given and by the number of that course. The plan of numbering is as follows:

Courses 1 to 99—courses intended primarily for freshmen and sophomores.
Courses 100 to 199—courses intended primarily for juniors and seniors.
Courses 200 to 299—advanced courses for juniors, seniors, and graduates.
Courses 300 to 399—courses open to graduate students only.

SCHEDULES

Before the opening of each semester, a schedule is printed announcing the courses that will be offered in the College of Agriculture, Forestry, and Home Economics; the College of Arts and Sciences; the College of Commerce; the College of Education; the School of Journalism; the Division of Military and Air Science and Tactics; the School of Music; and the School of Physical Education and Athletics. Schedules are prepared for the College of Engineering and the School of Mines, the College of Law, the College of Pharmacy, and the School of Medicine but are not printed.

The College of Agriculture Forestry, and Home Economics

GENERAL INFORMATION

THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

Agricultural, forestry, and home economics work at West Virginia University is organized under the College of Agriculture, Forestry, and Home Economics. For the purpose of administration the College is divided into three branches:

I. The Agricultural Experiment Station, organized for research and experimental work.
II. Resident instruction in agriculture, in forestry, and in home economics.
III. Extension work in agriculture, forestry, home economics, and boys' and girls' club work, given by the Agricultural Extension Service to citizens of the state who are not in residence at the College.

The work of these divisions is closely interrelated. Although some members of the staff devote full time to college instruction, research, or extension work, many others divide their time among two or three of the divisions.

History

In 1895 the College of Agriculture was established as a distinct college in the University. The Agricultural Experiment Station, founded in 1888, became part of the College at the time the latter was instituted. The Agricultural Extension Service was added in 1913, and in 1914 the Department of Home Economics was transferred from the College of Arts and Sciences. Organization of the College was completed in 1937 when a full four-year course in forestry was added. The name of the unit then was changed to "The College of Agriculture, Forestry, and Home Economics."

The West Virginia Agricultural Experiment Station

The Experiment Station was established by the Board of Regents in 1888 by authority of an Act of Congress known as the Hatch Act. Further support was given by Acts of Congress known as the Adams Act, the Purnell Act, the Bankhead-Jones Act, and the Research and Marketing Act of 1946.

The objects and purposes of the Experiment Station as stated in the Hatch Act are:

"to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject with the remedies for the same; the chemical composition of useful plants at the different stages of growth; the comparative advantages of rotative cropping as pursued under varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adoption and value of grasses and forage plants; the composition and digestibility of the different kinds of foods for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches and experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states and territories."

Under the Purnell Act the work of the Experiment Station is enlarged to include research in farm economics, rural sociology, and certain phases of home economics

which relate to nutrition and the use of foods. The work of the Experiment Station also is supported by State appropriations.

Besides the provision for expanding certain types of research authorized previously, the Bankhead-Jones Act provides specifically for research looking toward improvement of quality in agricultural products and by-products and in manufacture, and also for research relating to the conservation, development, and use of land and water resources for agricultural purposes.

The Research and Marketing Act greatly enlarges the scope of the previous acts by providing for expansion of research in home economics, nutrition, marketing, and production of agricultural products, and further provides for new researches in housing, farm structures, introduction of new plants and animals, and for enlarged cooperation with federal, state, and private agencies.

At present, investigations are being conducted in the fields of agricultural biochemistry, agricultural economics and rural sociology, agricultural engineering, agronomy and genetics, animal husbandry, dairying, forestry, home economics, horticulture, plant pathology, bacteriology, and entomology. These investigations are classified into 151 research projects.

Branch Agricultural Experiment Stations

Branch experiment stations are maintained at Wardensville, Point Pleasant, Kearneysville, and Reedsville. The Reymann Memorial Experimental Farms at Wardensville, a gift received in 1917 from the estate of Lawrence A. Reymann, occupy 987.5 acres of farm land on the Cacapon River in Hardy County. The farm is being operated on an experimental basis involving pasture improvement, erosion control, soil rebuilding, water conservation, irrigation, crops, beef cattle, sheep, and poultry.

The Ohio Valley branch experiment station of 150 acres at Point Pleasant on the Ohio River was acquired in 1948 from the War Assets Administration. It is operated as a unit for the experimental production of tobacco and truck and field crops of special interest to the farmers of the Ohio and Kanawha Valleys. From this Station, supervision extends to the area at Lakin formerly operated by the Experiment Station, but operated by West Virginia State College.

The University Experiment Farm, a tract of 158 acres near Kearneysville, in the eastern fruit section, was established in 1930 as a branch experiment station for the study of problems relating to fruit production, including insect and disease control, as well as problems of general farming typical of the section. The insect investigations are carried on in cooperation with the Federal Bureau of Economic Entomology.

The Reedsville Experiment Farm in Preston County was acquired through transfer of the dairy farm of the Arthurdale Association by the Federal Housing Authority for the purpose of contributing to the welfare of the community and the people of West Virginia through demonstration and research. Work on this 457-acre farm consists of programs with potatoes, ornamentals, small fruits, corn and legumes in rotations, livestock, hillculture, and agricultural engineering.

Bulletins and quarterly reports setting forth the results of experiments and investigations conducted at the Station are published for gratuitous distribution and will be mailed to any citizen of the State who applies for them.

Cooperative Extension Work

By act of the Legislature in 1913, amended in 1915, the Agricultural Extension Service was created and established in the College of Agriculture for the purpose of promoting improvement and advancement of agriculture, home economics, and rural life among the people of the State.

County Extension agents carry on a continuous program of demonstration coupled with all available means for disseminating information on problems relating to production techniques, marketing, and soil conservation. They demonstrate new and improved varieties of crops, methods of insect and disease control, methods of cultivation, proper fertilization, and use of labor-saving devices and techniques in harvesting.

Farmers are assisted with the solution of problems relating to livestock breeding, diseases and their control, and feeding and marketing. Farmers also are helped

with problems relating to management of their farms, securing of credit, combination of farm enterprises, and keeping of farm accounts.

Receiving attention in the home phase of farm problems are those related to foods and nutrition, home management, housing, clothing, and family life. Attention also is given to the family and its constructive influence in community life and civic affairs; discussion guides and factual information are provided to help homemakers become better informed citizens, and to give them a better understanding of the effect of national and international affairs on their farms and their homes.

All Extension workers have a deep interest in rural youth of the state. Through 4-H club work, young people are introduced to many improved practices in agriculture and homemaking. This program emphasizes the four-fold development of head, heart, health, and hand.

The primary function of the Agricultural Extension Service is education. The chief purpose of Extension is to teach people to help themselves. The organization is financed jointly by the federal, state, and county governments.

In 1921 the Legislature established at Jackson's Mill, Lewis County, a State 4-H Camp which has grown from 5 to 523 acres. Fifteen cottages erected by various counties together with the assembly hall, swimming pool, dining room, health center and other buildings and equipment, furnish facilities for a series of camps, conferences, and meetings running throughout the year. It is the pioneer development of its kind in the world.

The Agricultural Extension Service cooperates with Oglebay Institute in carrying out the educational program at Oglebay Park near Wheeling. By arrangement with the Wheeling Park Board, the facilities of this park are used by the Institute for camps, conferences, and fairs. The chief purpose of this type of program is to train and develop leadership in music, recreation and other forms of leisure-time activities, as well as in handicrafts and art.

Short Courses and Special Schools

In addition to the instruction of collegiate grade offered, the College of Agriculture, Forestry, and Home Economics maintains a series of annual short courses with special schools for the benefit of adult residents in the state who wish to obtain, in brief periods, education in certain fields. The Department of Dairy Husbandry has sponsored milk and ice cream courses for dairy plant operators and workers. The Horticulture Extension School is held each year in the Eastern Panhandle. One-day schools are held at Romney and Wheeling. The annual sessions concern many production, disease-control, and marketing problems of the Panhandle fruit grower.

Buildings and Equipment

The administration offices and many of the laboratories and classrooms of the College are in Oglebay Hall. The building contains on the basement floor the creamery and dairy laboratories, four-chambered cold storage plant and ice machine, the mailing room, and laboratories for animal husbandry. The first floor is devoted to the Office of Administration of the College, the Experiment Station, and the Extension Service; the Department of Agronomy; the Division of Home Economics; and to agronomy and home economics laboratories. The second floor houses the departments of Agricultural Education and Animal Husbandry as well as the Extension Service editorial offices and provides two recitation rooms, three home economics laboratories and a staff conference room. On the upper floor are situated the Department of Horticulture, and the Animal Pathology section of the Department of Animal Husbandry.

The Agricultural Editor's office is located in the basement of Woodburn Hall.

The Extension Service also has several offices in the Spruce Street Annex.

In Oglebay Annex are situated the offices of the Department of Dairy Husbandry, and some of the laboratories of the Department of Agricultural Engineering.

The Department of Plant Pathology, Bacteriology, and Entomology with offices, classrooms, and laboratories, occupies a section of Brooks Hall.

The old Experiment Station building houses on the first floor the office and laboratories of the Agricultural Biochemistry Department. The second floor is occupied by the soils laboratories and offices.

Beaumont House Annex houses the offices and laboratories of the Department of Agricultural Economics and Rural Sociology. Additional offices for research and teaching personnel are located at 661 Price Street.

The Forestry building across Stadium Bridge houses in its two upper floors the Division of Forestry, and in its basement and first floor, the laboratories and office of the Department of Agricultural Engineering.

The Home Management Houses are situated at 128 Willey Street and 298 Prospect Street. The Nursery School is located at 549 Price Street. Facilities for research and teaching in fabrics are located at 296 Prospect Street.

The College of Agriculture now has 990 acres of land lying at a short distance from the University buildings. This land is definitely organized into a series of five farms operated respectively as Animal Husbandry, Dairy Husbandry, Poultry Husbandry, Agronomy, and Horticulture units. Each of the farms is equipped with modern farm buildings and with special buildings for experimental, laboratory, and classroom work. The Animal Husbandry Farm contains a 40-acre woodlot which is used for instruction and experimentation in forestry.

At Alvon, in Greenbrier County, the Division of Forestry maintains Camp Wood, devoted to field instruction in land surveying and timber estimating for students in the division who have passed two years of the professional forestry course. The camp, situated in the Monongahela National Forest, is equipped with permanent buildings for instruction and living accommodations.

The Division of Forestry also has 498 acres of forest land in Randolph County which is being used for research and educational training. In addition to this work, the tract is used by extension foresters to demonstrate sustained yield and forest operation for the production of hardwood timber.

During 1951, an agreement was completed between the University and the Island Creek Coal Company making the 3,000-acre Island Creek Experimental Forest available for research in applied forestry. The experimental work conducted here is open to inspection by forestry students.

Cooper's Rock State Forest, an area of 13,000 acres fronting on Cheat Lake, is less than ten miles from the institution. By agreement between the University and the Conservation Commission of West Virginia an 8,000-acre part of this forest has been set aside as the West Virginia University Forest, Division of the Cooper's Rock State Forest. This area is managed by the Division of Forestry for research and educational purposes.

With its farm land, buildings, and equipment the College of Agriculture, Forestry, and Home Economics is enabled to offer thorough and complete training in most branches of agriculture and forestry which are applicable to West Virginia conditions, and to provide adequate training in several fields in home economics.

As part of the work in several of the courses offered in the College, visits are made to large farms, specialized farms or farming regions, and city markets. Students are expected to pay their own expenses, which are kept at a moderate figure.

Student Activities

Every student entering judging courses offered in the college has the opportunity of competing for a place on livestock, meat, dairy cattle, dairy products, poultry, and fruit-judging teams. Qualified teams compete at regional, national, and international contests.

Numerous organizations on the Campus are open to University students. Of special interest to students of agriculture, forestry, or home economics are the Mountaineer Poultry Club, Mountaineer Collegiate Chapter of Future Farmers of Amercia, Forestry Club, Dairy Science Club, Home Economics Club, University 4-H Club, Alpha Zeta, (agricultural honorary), Phi Upsilon Omicron (home economics honorary), Alpha Tau Alpha (agricultural educational organization), and Block and Bridle Club.

FACULTY COMMITTEES

Courses and Hours: Messrs. Longhouse, Percival, Childs, and Varney; Miss Brown.
Scholarship: Messrs. True and Brooks; Miss Rennebohm.
Student Placement and Farm Practice: Messrs. Pohlman, Henderson, and Livesay.

Library:¶ Messrs. Reid, Nybroten, and Moss.
Faculty Executive: Messrs. Varney, Clarke, J. H., Leach, Goodspeed, and Luchok; Miss Rennebohm.
Student Aid and Grants: Messrs. Butler and Myers, Miss Jones.

EXPERIMENT STATION STAFF COMMITTEES

Station Projects: Messrs. Lewis, Dunbar, and Dickerson.
Station Publications: Messrs. Burger, Lilly, and Armentrout.

¶Joint Committee of the College and Experiment Station.

Revision of the Unity Rule of 1948

"Students who are deficient by 15 or more grade points shall be placed on probation. Students on probation shall report to the Scholarship Committee before registering for the succeeding semester and shall obtain from the Scholarship Committee a statement of courses to be repeated and the total load that they may carry. In each successive semester thereafter, they shall be required to repeat one or more courses in which they have received a grade of "D" until they have made up the deficiency in grade points. Students whose deficiency in grade points exceeds 30 shall be suspended."

Division of Agriculture

The training offered in agriculture is adapted to fit the student for farm life or professional and business fields. Graduates may engage in farming as managers or as farm owners, in the teaching of agriculture in high schools or colleges, in extension work as county agents or specialists, in research work in experiment stations or other organizations, or in many of the federal activities in aid of agriculture. They may engage in business related to farming, such as dairy manufacturing, meat processing, seeds and nursery stock, feeds and fertilizers, or marketing.

For the use of students, the following laboratories are maintained in the college: agricultural chemistry, agronomy, soils, genetics, animal husbandry, animal pathology, dairy husbandry, entomology, agricultural economics, rural sociology, agricultural engineering, horticulture, nutrition, plant pathology, and poultry husbandry.

The Dean of the College of Agriculture will act as adviser for all agriculture students and will assign students to other advisers whom he may designate.

REQUIREMENTS FOR DEGREES

The Division of Agriculture offers four-year courses leading to the following degrees: (1) Bachelor of Science in Agriculture, (2) Bachelor of Science, and (3) Bachelor of Science in Agricultural Engineering. The degree of Bachelor of Science in Agriculture, together with the degree of Bachelor of Arts in the College of Arts and Sciences, may be acquired in five years. Graduate work is discussed on page 86.

For graduation, an average of 2 grade points per credit hour is required for all courses taken, whether passed or failed.

The "semester hour" is the standard for computing the amount of work required for graduation. The "hour" represents the amount of work done in one semester (eighteen weeks) in one recitation with two preparation hours a week, or three hours, practice or laboratory work requiring no outside preparation.

No student may register for less than 14 hours or more than 20 hours of work in any one semester without special permission.

Students who do not have sufficient farm experience will be required to take Agriculture 5, Farm Practice.

Not more than 2 hours of credit for physical activity courses will be allowed toward the above degrees in the case of male students, four in the case of female students.

BACHELOR OF SCIENCE IN AGRICULTURE

The curriculum leading to the degree of Bachelor of Science in Agriculture is designed to provide a broad and well-grounded training in the general field of agriculture so that the graduate may be prepared for occupations requiring such general knowledge, and may have the necessary foundation for such specialization as he may elect to pursue.

The requirements for the degree of Bachelor of Science in Agriculture are:

1. Constants, or courses required of all qualifying for this degree.
2. Courses to be taken in the field of the student's major interest.
3. Free electives sufficient to bring the total number of credits to 144 semester hours.
4. A grade-point average of not less than two points per semester hour.

All candidates for the degree must take the following courses:
Biology: Biology 1 (4 hr.) and Biology 2 (4 hr.).
Chemistry: Chem. 1 and 2 (8 hr.).
English: Eng. 1 and 2 and Eng. 18 (3 hr.).
Economics: Agr. Econ. 102 (3 hr.).
History: Hist. 2 (3 hr.).
Mathematics: Math. 11 (3 hr.).
Military: Military or Air Science 1, 2, 3, and 4 (men) (8 hr.).
Physical Education: P.E. 1 and 2 (men) (2 hr.); (women) (4 hr.).
Physics: Physics 1 and 2 (8 hr.) (Agricultural Education students not included).
Political Science: Pol. Sci. 101 (3 hr.) (Agricultural Education students not included).

In addition to the above constants, each student is required to take the courses under the curriculum. At least 20 hours given in the department in which the student is majoring are required.

After requirements have been met, electives may be chosen without restriction as to college or department, with the approval of the adviser. Required and elective hours taken in the College of Agriculture, however, must total at least 60. Provision is made for upper-division students who may wish to elect certain lower-division subjects such as languages.

Students who wish to specialize may select majors in Agricultural Economics, Agricultural Mechanics, Agronomy and Genetics, Animal Husbandry, Dairy Husbandry, Dairy Manufacturing, Horticulture, Landscaping, Poultry Husbandry, and Agricultural Education. Students desiring a more general knowledge of agriculture, particularly those who expect to farm for themselves or go into Extension work, may pursue a curriculum in General Agriculture.

The following curricula indicate course requirements in each of the majors:

CURRICULUM IN AGRICULTURAL ECONOMICS

Degree: Bachelor of Science in Agriculture

This curriculum is designed principally to prepare students for advanced study in the field. Students who are interested in agricultural economics but plan to seek employment without graduate study are advised to major in General Agriculture and elect agricultural economics courses.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
A. H. 11	3	Biol. 2	4	D. H. 11	3	Agr. Econ. 131	3
*Biol. 1	4	*Chem 2	4	*Ag. Econ. 102	3	Agron. 1	4
*Chem. 1	4	*Eng. 2	3	*Math 11	3	*Eng. 18	3
*Eng. 1	3	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2
*Mil. or Air Sci. 1	2	*P. E. 2	1	*Physics 1	4	*Physics 2	4
*P. E. 1	1	P. H. 1	4	Electives	4	Electives	3
	17		18		19		19

*Constants required in all curricula.

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 104	3	*Hist. 2	3	Phil. 106	3	Agr. Econ. 200	3
A. H. 101	3	Rural Soc. 105	3	Electives	15	Agr. Econ 271	2
*Pol. Sc. 101	3	Hort 1 or 2	3			Electives	12
Electives	9	Electives	9				
	18		18		18		17

*Constants required in all curricula.

Select electives in accordance with the following outline.

Group A. Elect 24 hr. from the following courses in agriculture.

1. Elect not less than 2 hr. from:
   Agr. Econ. 206, 230.
2. Elect not less than 3 nor more than 6 hr. from:
   Ag. M. 20, 153, 170.
3. Elect not less than 3 nor more than 6 hr. from:
   Agron. 205, 210, 254; Genetics 111, 221, 224.
4. Elect not less than 6 nor more than 12 hr. from:
   An. H. 141, 142, 143, 167, 225; P. H. 103; An. Path. 102; D. H. 12, 107, 123, 222.
5. Elect not more than 3 hr. from:
   Hort. 2, 106, 206.
6. Elect not less than 4 nor more than 6 hr. from;
   Bact. 141; Entom. 202, 203; Pl. Path. 103, 106, 206.
7. Elect not less than 3 hr. from:
   Forestry 183; Agr. Educ. 134.

Group B. Elect 9 hr. from:
Econ. 111, 119, 235, 241, 125.

Group C. Elect 3 hr. from:
Psych. 1; Pol. Sci. 231; Sociol. 102, 229; Hist. 282.

Free Electives: 11 hr.

CURRICULUM IN AGRICULTURAL EDUCATION

Degree: Bachelor of Science in Agriculture

The State Board of Education has set up definite requirements applicable to all college graduates desiring to teach in West Virginia high schools. These requirements specify the kind and number of various science and agricultural courses as well as courses in professional education subjects, all of which are necessary to qualify graduates for certification. This curriculum is designed to prepare students for a teaching career in the field of vocational agriculture, with provisions for teaching biological science as a second field. To meet the state requirements for teaching vocational agriculture, a B.S. Degree in Agriculture is required. This curriculum satisfies the requirements for this degree.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Eng. 1 or		*Eng. 2 or		Dairy 11	3	Agron. 1	4
Eng. 1 (Com.)	3	Eng. 2 (Com.)	3	Hist. 1	3	*Hist. 2	3
A.H. 11	3	P.H. 1	4	*Eng. 18 or		Eng. 5 or 6	3
*Biol. 1	4	*Biol. 2	4	Eng. 21 (Com.)	3	Soc. Sci. 2	4
*Chem. 1	4	*Chem. 2	4	Soc. Sci. 1	4	Hort 1 or 2	3
*Mil. or Air Sci. 1	2	*Mil or Air Sci. 2	2	*Mil. or Air Sci. 3	2	*Mil or Air Sci. 4	2
*P.E. 1	1	*P.E. 2	1	*Math 11	3		
	17		18		18		19

*Constants required in all curricula.

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agron. 2	4	Forestry 183	3	Ag. Ec. 104	3	Educ. 114	3
Ag. Mech. 152	3	Educ. 106	3	Educ. 160	3	Educ. 120	2
A.H. 101	3	Ag. Mech. 153	3	Health Ed. 101	2	Educ. 124	4
*Ag. Ec. 102	3	Bact. 141	4	An. Path. or		Educ. 276	2
Educ. 105	3	Electives	5	Pl. Path.	3-4	Ag. Ed. 118	2
Music 10	2	Art 30 or 130	2	Ag. Mech.		Electives	3
				(Elective)	3		
	18		19		19-20		16

*Constants required in all curricula.

NOTE: Nine hours of electives must be in Agriculture to meet the requirements for the B.S. Agriculture degree. The remaining three hours are free electives.

CURRICULUM IN AGRICULTURAL MECHANICS

Degree: Bachelor of Science in Agriculture

This curriculum is intended for agricultural students who are interested in the production and primary processing of crops and livestock, in county agent and other extension work, in soil-conservation work, and in sales and other work which deals directly with farm people. To an increasing extent, the operations on the farm are being mechanized through use of power and machinery. Consequently, the student must have an acquaintance with machinery, power, electrical equipment, soil conservation, farm buildings, and other Agricultural Mechanics subjects that relate to production and processing. Such training is included in this curriculum.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
A. H. 11	3	*Biol. 2	4	*Ag. Econ. 102	3	Bact. 141	4
*Biol. 1	4	*Chem 2	4	*Math 11	3	D. H. 12	3
*Chem. 1	4	*Eng. 2	3	M. E. 20	3	*Eng. 18	3
*Eng. 1	3	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	M. E. 11	2
*Mil. or Air Sci. 1	2	*P. E. 2	1	*Physics 1	4	*Mil. or Air Sci. 4	2
*P. E. 1	1	P. H. 1	4	Electives	3	*Physics 2	4
	17		18		18		18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 104	3	Agron. 1	4	Ag. M. 152	3	Ag. M 113	3
Agron. 2	4	Hort. 1, 2, or 39	3	Ag. M 151	3	Ag. M 153	3
*Hist. 2	3	Hort 106	2	Ag. M. 170	3	Ag. M 159	3
Pl. Path. 103	4	M.E. 7	1	Ag. M 175	3	Ag. M 200	2
Electives	5	*Pol. Sc. 101	3	Electives	5	Electives	8
		Electives	5				
	19		18		17		19

*Constants required in all curricula.

CURRICULUM IN AGRONOMY AND GENETICS

Degree: Bachelor of Science in Agriculture

This curriculum is suggested for students who plan to enter into work in some phase of Agronomy or Soil Conservation upon their graduation. Students intending to take graduate work to qualify for research or teaching positions in Agronomy or Genetics should elect the Agricultural Science Curriculum and elect at least 20 hours in the field of Agronomy and Genetics.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
An. Husb. 11	3	*Biol. 2	4
*Biol. 1	4	*Chem 2	4
*Chem. 1	4	*Eng. 2	3
*Eng. 1	3	Hort. 1	3
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2
*P. E. 1	1	*P. E. 2	1
	17		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Ag. Econ. 102	3	Agron. 1	4
Chem. 51	4	Bact. 141	4
*Eng. 18	3	*Mil. or Air Sci. 4	2
*Math 11	3	Speech 11	3
*Mil. or Air Sci. 3	2	*Physics 2	4
*Physics 1	4		
	19		17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ag. Econ. 104	3	Botany 161	4
Agron. 2	4	Entom. 202	4
An. Husb. 101	3	*Hist. 2	3
Hort. 2 or 206	3	Electives	8
Pl. Path. 103	4		
Electives	2		
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ag. Econ. 206	3	Ag. Mech. 153	3
Agron. 210	3	Agron. 254	4
Genetics 221	3	Electives	10
*Pol. Sc. 101	3		
Electives	6		
	19		17

Suggested Electives:

Agricultural Economics 271
Agricultural Mechanics 151, 175
Agronomy 205, 211, 216, 230, 231, 251, 252
Animal Husbandry 141, 162
Dairy Husbandry 11
Entomology 203
Forestry 183
Genetics 220, 222
Geology 1, 2
Horticulture 39, 206
Plant Pathology 202

CURRICULUM IN ANIMAL HUSBANDRY

Degree: *Bachelor of Science in Agriculture*

The Animal Husbandry Curriculum is outlined to give students sufficient courses in the fundamental sciences, and adequate course work in other fields of agriculture to balance their knowledge of agriculture as a whole. The Animal Husbandry courses required and taken as electives will give students a good foundation to continue graduate work in their chosen major, or to be employed in special lines of work open to students majoring in this field.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4
*Chem. 1	4	*Chem. 2	4
*Eng. 1	3	*Eng. 2	3
Dairy 11	3	Hort. 2	3
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2
*P. E. 1	1	*P. E. 2	1
	17		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A. H. 11	3	Agron. 1	4
Chem. 31	4	Bact. 141	4
*Math. 11	3	*Eng. 18	3
*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2
*Hist. 2	3	P.H. 1	4
Electives	3	Electives	2
	18		19

*Constants required in all curricula.

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Agr. Econ 102	3	Agr. Econ. 131	3
A. H. 101	3	A. H. 138	2
A. H. 167	3	Etom. 102	4
Agron. 2	4	*Physics 2	4
*Physics 1	4	Electives	5
Elective	2		
	19		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 104	3	Agron. 254	4
An. Path. 102	3	A. H. 225	3
Genetics 221	3	A. H. 226	3
*Pol. Sci 101	3	A. H. 200	1
Electives	6	Electives	7
	18		18

***Constants required in all curricula.**

Suggested Electives: An. Path. 206 (3 hr.); Hist. 182 (3 hr.); Ag. M. 175 (3 hr.). P. H. 103, 201 (3 hr.); A. H. 141 (3 hr.); A. H. 143 (2 hr.); Ag. Ed. 134 (2 hr.); A. H. 203 (3 hr.); A. H. 142 (3 hr.); A. H. 162 (3 hr.); A. H. 202 (2 hr.); Agron. 210 (3 hr); Ag. M. 153 (3 hr.); Pl. Path. 103 (4 hr.); D. H. 12 (3 hr.); Speech 11 (either semester, 3 hr.); Forestry 183 (3 hr.); Biochemistry 220 (4 hr.); Zoology 271, (4 hr.).

CURRICULUM IN DAIRY HUSBANDRY

Degree: *Bachelor of Science in Agriculture*

The curriculum in Dairy Husbandry is planned to give the student interested in dairy production a thorough training in this field. It is designed to train leaders in the dairy field. Students completing this curriculum should be qualified to operate successfully their own farm or to serve as herdsmen, farm managers, fieldmen, county agricultural agents, milk sanitarians, etc. or to continue in the educational field.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	A.H. 11	3	Bact. 141	4
*Chem. 1	4	*Chem. 2	4	Chem. 31	4	*Eng. 18	3
*Eng. 1	3	D.H. 12	3	D.H. 11	3	*Mil or Air Sci. 4	2
*Mil. or Air Sci. 1	2	*Eng. 2	3	*Math. 11	3	*Physics 2	4
*P.E. 1	1	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	Agron. 1	4
Agr. Electives	3	*P.E. 2	1	*Physics 1	4		
	17		17		19		17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agron. 2	4	Agron. 254	4	Agr. Ec. 104	3	D.H. 222	4
*Agr. Ec. 102	3	D.H. 123	2	D.H. 107	3	Electives	15
D.H. 101	3	*Hist. 2	3	D.H. 221	3		
An. Path. 102	3	Speech 11	3	Electives	10		
Genetics 111 or 221	2-3	Electives	6				
*Pol. Sci. 101	3						
	18-19		18		19		19

*Constants required in all curricula.

Suggested Electives: P.H. 1 (4 hr.); Agron. 210 (3 hr.); Agron. 205 (2 hr.); A.H. 167 (3 hr.); Agr. Econ. 105 (3 hr.); Agr. Econ. 131 (3 hr.); Agr. Econ. 230 (2-3 hr.); Agr. Econ. 235 (2 hr.); Ag M 159 (3 hr.); Ag. M. 170 (3 hr.); Ag. M. 175 (3 hr.); Ag. M. 153 (3 hr.); Dairy Bact. 236 (4 hr.); D.H. 103 (3 hr.); D.H. 225 (3 hr.); D.H. 226 (3 hr); Entom. 102 (4 hr.); Libr. Sci. 1 (2 hr.); Agr. Biochem. 218 (3 hr.); Agr. Biochem. 220 (4 hr.).

CURRICULUM IN DAIRY MANUFACTURING

Degree: *Bachelor of Science in Agriculture*

The curriculum given in Dairy Manufacturing is designed for those students planning to enter the dairy industry as plant men, fieldmen or technicians.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	Chem. 31	4	Bact. 141	4
*Chem. 1	4	*Chem. 2	4	D.H. 11	3	*Eng. 18	3
*Eng. 1	3	D.H. 12	3	*Math. 11	3	*Mil or Air Sci. 4	2
*Mil. or Air Sci. 1	2	*Eng. 2	3	Electives	3	*Physics 2	4
*P.E. 1	1	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	Electives	6
		*P.E. 2	1	*Physics 1	4		
	17		17		19		19

*Constants required in all curricula.

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agr. Biochem. 218	3	Agr. Econ. 235	2	D.H. 103	3	D.H. 104	3
D.H. 102	3	Agr. M. 113	3	D.H. 107	3	D.H. 204	4
*Ag. Econ. 102	3	D.H. 124	2	Electives	11	Electives	11
D. Bact. 246	4	D.H. 222	4				
*Pol. Sci. 101	3	*Hist. 2	3				
Electives	2	Speech 11	3				
		Electives	2				
	18		19		17		18

*Constants required in all curricula.

Suggested Electives: P.H. 1; Genetics 111 or 221; A.H. 11, 167; Chem. 105; Agron. 1; Agr. Econ. 104, 131; D.H. 101, 221; Math. 4; Agr. Econ. 230; Agr. Biochem. 220; Accounting 1; Accounting 2.

CURRICULUM IN GENERAL AGRICULTURE

Degree: Bachelor of Science in Agriculture

The General Agriculture curriculum is designed to give the student expansive general training in the field of farming. It combines the fundamental sciences, basic arts, and practical applications of agriculture, and offers excellent instruction for those interested in extension work and other employment requiring a broad basic knowledge of the whole field of agriculture.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	Chem. 31	4	Agronomy 1	4
*Chem. 1	4	*Chem. 2	4	Dairy Husb. 11	3	*Eng. 18	3
*Eng. 1	3	*Eng. 2	3	*Hist. 2	3	Hort. elective	3
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	*Math. 11	3	*Mil or Air Sci. 4	2
*P.E. 1	1	*P.E. 2	1	*Mil. or Air Sci. 3	2	Elective	3
Agr. Elective	3	Agr. Elective	4	*Math. 11	3		
				Elective	3		
	17		18		18		19

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Ag. Econ. 102	3	Bact. 141	4	Ag. Econ. elect.	3	Ag. Econ. elect.	3
Agronomy 2	4	*Physics 2	4	Ag. Mech. elect.	3	Ag. Mech. elect.	3
And. Husb. 101	3	Speech 11	3	An. Path. 102 or Pl. Path 103	3-4	Entomology 202	4
*Physics 1	4	Pol. Sci. 101	3			Forestry 183, 183	3
Elective	3	Elective	4	Genetics 221	3	Electives	5
				Electives	7-6		
	17		18		19		18

*Constants required in all curricula.

CURRICULUM IN HORTICULTURE

Degree: *Bachelor of Science in Agriculture*

The Horticulture curriculum in production of fruits, vegetables, and flowers has been revised recently to meet the current needs of students who desire to have their own commercial enterprise or a sound professional training for filling a position with an established organization. The low investment required for the production of small fruits, vegetables, bulb crops, and nursery stock presents unlimited opportunities for young men with a thorough horticultural training. Small areas of tillable land in West Virginia demand use of the intensive type of horticultural crops if the greatest return is to be realized. Local marketing of horticultural crops is no problem in most of West Virginia, since the demand exceeds the supply.

Certain courses offered in Horticulture are designed to interest nonagricultural students who desire to use the subject matter for improving their daily living or hobby interests. These courses deal with home grounds beautification in Horticulture 39, home vegetable and fruit production in Horticulture 1 and 2, and propagation in Horticulture 104.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	Chem. 31	4	Agron. 1	4
*Chem. 1	4	*Chem. 2	4	Hort. 2 or 39	3	Bact. 141	4
*Eng. 1	3	*Eng. 2	3	*Math. 11	3	*Eng. 18	3
Hort. 39 or 2	3	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	Hort. 104 or 141	3
*Mil. or Air Sci. 1	2	*P.E. 2	1	*Physics 1	4	*Mil or Air Sci. 4	2
*P.E. 1	1	Hort. 1	3	Electives	3	*Physics 2	4
	17		17		19		20

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Ag. Econ. 102	3	Entom. 202	4	Botany 273	4	Ag. M. electives	3
Agron. 2	4	*Hist. 2 (or 52 & 53)	3	Genetics 221	3	Agron. 210	3
Pl. Path. 103	4	Hort. 106	2	Hort. 151, 212, or 239	3	Hort. 141 or 104, or 232 and 234	3
*Pol. Sc. 101	3	Pl. Path. 204, 205, or 206	2	Electives	8	Electives	9
Hort. 206	3	Electives	7				
	17		18		18		18

*Constants required in all curricula.

Suggested Electives: Agr. Econ. 104, 131; Ag. M. 20, 151, 159, 170; Agron. 205, 211, 216, 230, 251; Art 11, 12, 30; A.H. 11, 101; Geol. 1; Botany 274; Bus. Adm. 245, 270; D.H. 11; Econ. 111; Entom. 203; Forestry 183; Hort. 140, 239; Languages; Libr. Sc. 1; Math. 4; Pl. Path. 313; P.H. 1; Speech 11; Agr. Biochem. 103.

CURRICULUM IN LANDSCAPING

Degree: *Bachelor of Science in Agriculture*

The field of ornamental horticulture is broad, for it includes the work of nurserymen and landscape operators, as well as greenhousemen and florists, both in production and merchandising. There is a rapidly developing interest in this field in West Virginia. Because of this, opportunities for employment of graduates are increasing.

Because of the breadth of the field, two different curricula are offered to fit the needs of the student, landscaping and production. Courses for the latter are listed under the Curriculum in Horticulture. The first two years are devoted to a broad, basic foundation as preparation for specialization during the junior and senior years. Emphasis is placed on a sound understanding of the basic principles involved. In addition to this, one Summer's work or practice is required for those lacking experience, where practical aspects of garden construction and maintenance and nursery practices are emphasized.

Students with a city background will fit into this field much more readily than in some other phases of agriculture.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	Art 11	3	Bact. 141	4
*Chem. 1	4	*Chem. 2	4	Chem. 31	4	Hort. 1	3
*Eng. 1	3	*Eng. 2	3	Hort. 2	3	Hort. 140	3
Horticulture 39	3	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	*Mil or Air Sci. 4	2
*Mil. or Air Sci. 1	2	*P.E. 2	1	*Math. 11	2	Electives	6
*P.E. 1	1	Electives	4	M.E. 20	3		
	17		18		18		18

*Constants required in all curricula.

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Hort. 239	3	Ag. Mech. (Elec.)	3	Botany 273	4	*Physics 2	4
Pl. Path. 103	4	*Eng. 18	3	Genetics 221	3	Pl. Path. 205	2
*Ag. Econ. 102	3	Entomology 202	4	*Physics 1	4	Hort. 181	3
Agron. 2	4	*Hist 2 (or		*Pol. Sci. 101	3	Electives	9
Hort. 151	3	52 and 53)	3	Electives 4	4		
Elective	1	Hort. 104	3				
		Electives	3				
	18		19		18		18

*Constants required in all curricula.

Suggested Electives: Agr. Econ. 104, 131; Ag. M. 113, 151, 159, 170, 175; Agron. 1, 211, 216, 230, 251; Art 12, 30; A.H. 11, 104, 101; Geol. 1; Botany 274; Bus. Adm. 245, 270; D.H. 11; Econ. 111; Entom. 203; Forestry 183; Hort. 106, 141, 206; Libr. Sci. 1; Pl. Path. 313; P.H. 1; Speech 11; Languages.

CURRICULUM IN POULTRY HUSBANDRY

Degree: Bachelor of Science in Agriculture

The curriculum in Poultry Husbandry is designed to give the student a thorough knowledge of subject matter necessary for poultry raising, poultry improvement work, management of a poultry breeding farm, and as a basis for graduate training for teaching and research in Poultry Husbandry. Students may select elective courses to meet their special needs.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	Chem. 31	4	Bact. 141	4
*Chem. 1	4	*Chem. 2	4	*Ag. Econ. 102	3	*Eng. 18	3
*Eng. 1	3	*Eng. 2	3	*Math. 11	3	*Mil. or Air Sci. 4	2
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	*Physics 2	4
*P. E. 1	1	*P. E. 2	1	*Physics 1	4	Electives	4
Agr. elective	4	P. H. 1	4	Electives	3		
	18		18		19		17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Genetics 221	3	*Hist. 2	3	P.H. 108	1	P.H. 109	1
*Pol. Sci. 101	3	P.H. 103	3	P.H. 201	3	P.H. 200	1
An. Path. 102	3	Electives	12	P.H. 212	3	An. Path. 206	3
P.H. 106	2			Zool. 271	4		
Electives	7			Electives	7		
	18		18		18		18

*Constants required in all curricula.

Electives: A minimum of 3 hours each is required in Agronomy, Animal Hubsandry, and Horticulture.

Suggested Electives: Agr. Econ. 104, 131; A.H. 11, 101, 167, 225; Agron. 1, 2; D.H. 11, 226; Hort. 1; Entomology 202; P.H. 105, 110, 213; Speech 1; Ag. M. 159, 170; Ag. Biochem. 201.

CURRICULUM IN PRE-VETERINARY MEDICINE

This course of study is designed to meet the requirements for Ohio State and Oklahoma A & M colleges of Veterinary Medicine. Four students a year will be accepted by each of the above schools. Summer courses are not required, but if work is not taken in the summer, three years of study would be required. Many students

will find it advantageous to obtain a degree in Agriculture before going to a veterinary school. The courses listed in the Pre-Veterinary Medicine Curriculum may be used for credit toward a degree in Agriculture.

FIRST YEAR				SUMMER SESSION			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Term*	*Hr.*	*Second Term*	*Hr.*
*Eng. 1	3	*Eng. 2	3	*Physics 1	4	*Physics 2	4
*Chem. 1	4	*Chem. 2	4	Elective	3	Speech 11	3
Zool. 1	4	Zool. 2	4				
Botany 1	4	P.H. 1	4				
*Mil. or Air Sci. 1	2	*Mil or Air Sci. 2	2				
*P.E. 1	1	*P.E. 2	1				
	18		18		7		7

SECOND YEAR				SUMMER SESSION	
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Term*	*Hr.*
*Pol. Sci. 101	3	Chem. 115	3	Zool. 231	5
A.H. 101	3	D.H. 12	3		5
Chem. 105	4	Genetics 111			
Chem. 31	4	and 112	3		
*Ag. Econ. 102	3	History 52 & 53	6		
*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2		
	19		17		

*Constants required in all curricula.

BACHELOR OF SCIENCE

The curriculum leading to the degree of Bachelor of Science is designed for those who are interested in teaching agricultural science and especially interested in research.

CURRICULUM IN AGRICULTURAL SCIENCE

Degree: Bachelor of Science

Students who expect to do graduate work in preparation for teaching agricultural science in colleges and universities or for research work in experiment stations, or for other work in specialized fields of basic agricultural science, may register for the Curriculum in Agricultural Science. Only those students who have a high-school record above average and who are capable of maintaining a scholarship average of "B" or above should follow this curriculum. Success in graduate work will depend upon better-than-average undergraduate scholarship, and such undergraduate work must include adequate preparation in biology, mathematics, English, and foreign languages. The degree of Bachelor of Science is conferred upon the satisfactory completion of this curriculum. At least 45 hours of courses in the College of Agriculture are required.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	Bact. 141	4	*Hist. 2 (or 52	
*Chem. 1	4	*Chem. 2	4	Chem. 5	4	and 53)	3
*Eng. 1	3	*Eng. 2	3	*Eng. 18	3	*Mil. or Air Sci. 4	2
Math. 2 or 3	3-4	Math. 3 or 4	3	Math. 4 (if not		Speech 11	3
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	taken earlier)	3	Quan. Chem. 6	4-5
*P. E. 1	1	*P. E. 2	1	*Mil. or Air Sci. 3	2	Electives	4
				Electives 3	3		
	17-18		17		19		16-17

*Constants required in all curricula.

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Ag. Econ. 102	3	†German,		Electives	18	Electives	18-19
Chem. 233	5	French, or					
†German,		Spanish	3				
French or		*Physics 2	4				
Spanish	3	*Pol. Sc. 101	3				
*Physics 1	4	Electives	8				
Electives	3						
	18		18		18		18-19

†Take in junior or senior year.
At least 45 hours of agriculture are required.

BACHELOR OF SCIENCE IN AGRICULTURAL ENGINEERING

Agricultural Engineering is the application of engineering principles to agriculture. Success in the application of engineering fundamentals to the agricultural industry requires knowledge of both biological and physical sciences. The purpose of the course is to give the student who completes it general training in agriculture and in engineering fundamentals. Considerable stress is given to the basic requirements of animal and plant life on the farm which affect engineering practices, but greater emphasis is made on a thorough knowledge of those underlying principles and methods which are the foundation of all engineering professions.

Although the curriculum gives no opportunity for specialization, Agricultural Engineering is made up of four major fields. These are Farm Power and Machinery, Farm Structures, Soil and Water Conservation, and Rural Electrification.

Students preparing to take Agricultural Engineering should present for entrance as many units as possible in mathematics, chemistry, and physics; also, sufficient farm experience to meet the College of Agriculture requirements.

Some of the organizations and industries employing agricultural engineers are electric power companies and co-operatives; farm machinery manufacturers and distributors; manufacturers and distributors of building materials; oil companies; electric equipment and other suppliers for farm utilities; trust companies; farm management agencies; federal agencies such as Soil Conservation Service, U. S. Department of Agriculture, Federal Land Bank, and Indian Service; colleges and universities; Army and Navy, and foreign governments.

Opportunities for employment are numerous. At no time since the establishment of the profession has it been crowded, and the outlook is good for a continuance of this situation. With agriculture becoming increasingly mechanized, the demand for agricultural engineers is increasing and should continue to increase. New opportunities arise as mechanization continues. Starting salaries are in line with salaries in other branches of engineering.

CURRICULUM IN AGRICULTURAL ENGINEERING

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1	4	Chem. 2	4	Phys. 111	5	Phys. 112	5
English 1	3	English 2	3	Math. 107	4	Math. 108	4
Math. 3	3	Math. 5	4	Mil. or Air Sci. 3	2	Mil. or Air	
Math. 4	3	Mil. or Air Sci. 2	2	M.E. 26	2	Sci. 4	2
Mil. or Air		P.E. 2	1	M. 101	3	M. 102	3
Sci. 1	2	M.E. 20	3	Ag. Eng. 10	3	M.E. 29	3
P.E. 1	1	M.E. 11	2			M.E. 7	1
History 53	3						
G. 1	0						
	19		19		19		18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agronomy 2	4	C.E. 1	2	Ag. Eng. 110	3	Agronomy 1	4
M. 103	3	Engl. 126	3	Ag. Eng. 140	3	G. 100 (Insp.)	0
M.E. 113	3	M. 104	3	Ag. Eng. 230	4	Ag. Eng. 190	3
E.E. 105	4	E.E. 106	4	C.E. 115	3	Speech 11	3
Ag. Econ. 102	3	M.E. 121	3	Ag. Econ. 104	3	Elect. (Agr.)	3
		Ag. Eng. 100	3	Elect. (Agr.)	3	Elect. (Non-Te)	3
						Elect. (Eng.)	3
	17		18		19		19

Engineering Electives must be selected from the following courses:
Chem. Eng. 50, 284; C.E. 122 M.E. 140, 203; Geology.

Agricultural Electives must be selected from the following courses:
D.H. 11, 12; A.H. 11; P.H. 1; Hort. 1, 2, or 39.

Non-Technical Electives must be selected from the following courses:
Pol. Sci. 101; Hist. 2, 52; Psychology 1; Philosophy 4; Sociology (Rural 105).

GRADUATE WORK

Graduate work leading to the Master of Science Degree is offered in all branches of agriculture and in home economics education. In certain branches, courses leading to the degree of Doctor of Philosophy are offered. For those students in agriculture and home economics who wish additional training beyond the baccalaureate degree, but who desire breadth of training rather than specialization in one subject matter field, the degrees of Master of Agriculture and Master of Home Economics are available. The student who plans to pursue graduate work is directed to the Graduate School announcements in the University *Catalog*. Advancement in any of the professional fields is dependent upon graduate study, and the student desiring to pursue such work should plan to continue in graduate study upon completion of the undergraduate curriculum. A limited number of graduate assistantships which permit half-time devotion to study are available in the Division of Agriculture and the Experiment Station.

Teachers of vocational agriculture may combine graduate work in Agriculture and Education by taking 16 to 20 hours in Agriculture and 10 to 14 hours in Education to fulfill requirements for the M.S. Degree.

COURSES OF INSTRUCTION

Only the technical courses offered primarily for students in Agriculture are described here. For detailed description of other courses listed as required or elective in the agricultural curriculum, see the announcement of courses in the College of Arts and Sciences or in other colleges.

Admission to any advanced elective course is conditional upon the consent of the instructor.

ASSIGNED TOPICS

In order to be eligible to take courses 180, 181, Assigned Topics, the student must—

1. Have completed 100 hours of work and have a grade-point average of 2.5 or above.

2. Present, in advance, a written outline of the work to be done as an assigned topic. This outline must be acceptable to the Dean of the College and the departmental head concerned.

Item 1 above does not apply to special students.

A student may not receive credit toward graduation for more than 4 hours of assigned topics.

AGRICULTURE

DEAN VARNEY; ASSISTANT DEAN VANLANDINGHAM, and STAFF.

Undergraduate Division

5. SUMMER PRACTICE. No. hr. A minimum of 12 weeks on an approved farm will be required of each candidate for the degree of Bachelor of Science in Agriculture who has not had the equivalent of at least one year's farm experience after reaching the age of 14 years. Must be done under the direction of the Dean and the Committee on Farm Practice and must be completed before the third year. Open only to students deficient in farm practice.

Graduate Division

211. BIOMETRY. II. 3 hr. Statistical concepts and methods applied to data in biological and other fields. Major topics are: Measure of centrality and dispersion; normal distribution; population and sampling; estimation and tests of hypotheses concerning means and variance; analysis of variance; regression and correlation; enumeration statistics. Staff

360. PROBLEM REPORT FOR THE DEGREE OF MASTER OF AGRICULTURE. I, II, S. 1-3 hr. Staff

AGRICULTURAL BIOCHEMISTRY

Professor LEWIS; Associate Professor SHELTON; and Assistant Professor MCLAREN.

Chemistry courses for agricultural and home economics students are also offered in the College of Arts and Sciences and the School of Medicine.

Undergraduate Division

101. INTRODUCTORY PLANT AND ANIMAL BIOCHEMISTRY. II. 3 hr. PR: Chem. 1 and 2, Chem. 31 or 131 or equivalents. An introductory course of the biochemistry of carbohydrates, proteins, lipids, vitamins, enzymes, minerals and hormones of plants and animals. Mr. Shelton

103. AGRICULTURAL ANALYSIS. I. 3-5 hr. The principles of gravimetric and volumetric analysis, colorimetry, chromatography, bioassay and proximate analysis applied to the analysis of foods, feeds, and other agricultural materials. Mr. Lewis

180, 181. ASSIGNED TOPICS. I, II. 1-4 hr. per semester. Staff

201. GENERAL BIOCHEMISTRY. I. 4 hr. Inorganic and organic chemistry. (3 lect., 1 3-hr. lab.) Agricultural analysis desirable. The biochemistry of carbohydrates, lipids, proteins, vitamins, enzymes, and hormones. Mr. Lewis

218. DAIRY CHEMISTRY. II. 3 hr. PR: organic chemistry, agricultural analysis, or quantitative analysis desirable. Analysis of dairy products. Offered in alternate years (1956-57). Mr .Shelton

Graduate Division

301. ENZYMES. I. 3 hr. PR: Agricultural Biochemistry 201 or equivalent. A general survey of the chemistry of enzymes for the advanced student. Mr. McLaren

302. BIOCHEMISTRY OF NUTRITION. II. 4 hr. PR: Agricultural Biochemistry 201 or equivalent. Advanced study of nutrition emphasizing vitamins, digestion absorption and metabolism. Biochemical techniques for nutrition studies. Offered alternate years (1955-56). Mr. Shelton

303. BIOCHEMISTRY OF CARBOHYDRATES. II. 3 hr. PR: Agricultural Biochemistry 201 or consent of instructor. The structure properties and metabolism of monosaccharides, oligosaccharides and polysaccharides. Offered alternate years (1956-57). Mr. McLaren

320, 321, 322, 323. SPECIAL TOPICS. I and II. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. Staff

380, 381, 382, 383. Research. I and II. 1-6 hr. per semester. Staff

AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY

Professors Armentrout and Nybroten; Associate Professors Clarke and Toben; Assistant Professor Sizer.

AGRICULTURAL ECONOMICS

Undergraduate Division

102. Agricultural Economics. I. 3 hr. Principles with application to agriculture. Mr. Armentrout

104. Farm Management. I. 3 hr. PR: Agr. Econ. 102. Types and systems of farming; considerations in starting farming; use of records in solving farm problems; land tenure and leases; production for family use. Mr. Toben

131. Marketing Agricultural Products. II. 3 hr. PR: Agr. Econ. 102. Principles and practices. Tour of market facilities in Pittsburgh area required. Mr. Clarke

180, 181. Assigned Topics. I and II. 1-4 hr. per semester. Staff

200. Land Economics II. 3 hr. Classification, development, tenure, use, conservation, valuation and taxation of rural, urban, mineral, forest, water and recreational land resources. Mr. Nybroten

206. Farm Planning. I. 3 hr. PR: Senior standing. Principal factors influencing returns on farms; planning use of labor, soil, crops, livestock, buildings, and equipment. Farm visits required. Mr. Toben

230. Cooperative Marketing. II. 2-3 hr. PR: Agr. Econ. 102. Principles and practices of cooperation as applied to marketing of agricultural products and to purchase of farm supplies. Offered in 1957-58 and alternate years. Mr. Clarke

235. Marketing Dairy Products. II. 2 hr. PR: Agr. Econ. 102. Milk-marketing policies and practices, including federal milk-market orders. Offered in 1956-57 and alternate years. Mr. Clarke

271. Agricultural Policy. II. 2 hr. An examination of the economic aspects of government price programs, production and marketing controls, subsidies, parity, export and import policies, and other programs affecting agriculture. Offered in 1956-57 and alternate years. Mr. Armentrout

Graduate Division

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

340. Advanced Farm Management. I. 3 hr. PR: Ag. Econ. 206. Mr. Toben

341. Production Economics. I. 3 hr. Economic principles of production with special application to agriculture. Mr. Nybroten

342. Advanced Agricultural Economics. II. 3 hr. Mr. Armentrout

380, 381, 382, 383. Research. I and II. 1-6 hr. per semester. Staff

RURAL SOCIOLOGY

Undergraduate Division

105. Sociology of Rural Life. II. 3 hr. Social aspects of rural living; characteristics of rural population, social structure, and institutional arrangements (family, community, education, religion, recreation, health, welfare, and local government). Mr. Sizer

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For the Master's Degree, Special Topics may count 2 to 4 hours; maximum credit, 6 hours.) Staff

380, 381, 382, 383. Research. I and II. 1-6 hr. per semester. Staff

AGRICULTURAL EDUCATION

Associate Professor BUTLER; Assistant Professor BAIL; Lecturer ANDERSON.

Undergraduate Division

118. ORGANIZATIONS AND CLUBS FOR FARM BOYS. II. 2 hr. Problems involved in directing the activities of F.F.A., and similar organizations. Mr. Bail

134. METHODS OF AGRICULTURAL EXTENSION. I. 2 hr. Activities of the county agricultural and home demonstration agents and of the agricultural extension program of West Virginia. Mr. Anderson

138. THEORY AND PRACTICE OF AGRICULTURAL EXTENSION WORK. II. 2 hr. Methods used in Extension work and their underlying principles. Mr. Anderson

160. EDUCATION— MATERIALS AND METHODS OF HIGH-SCHOOL TEACHING OF VOCATIONAL AGRICULTURE. I, II. 3 hr. Organization and preparation for teaching vocational agriculture in the high school. Mr. Butler and Staff

180, 181. ASSIGNED TOPICS. I, II. 1 hr. 1-4 hr. per semester. PR: Adequate ability and training for the work proposed and permission to register. Staff

ED. 124. STUDENT TEACHING IN VOCATIONAL AGRICULTURE. I, II. 4 hr. Mr. Butler and Staff

ED. 276. TEACHING YOUNG AND ADULT FARMER CLASSES. II, S. 2 hr. PR: Ed. 105 and 106. Participation in conducting young and adult farmer classes and school-community food preservation center; organization, course of study, methods of teaching and supervision and young farmer association. Mr. Butler and Staff

ED. 277. ORGANIZING AND DIRECTING SUPERVISED FARMING PROGRAMS. I, S. 2 hr. PR: Ed. 160 or consent. Planning programs of supervised farming, supervising and evaluating such programs for all-day students, young farmers and adult farmers. Mr. Butler and Staff

ED. 318. PLANNING PROGRAMS AND COURSES FOR VOCATIONAL AGRICULTURE DEPARTMENTS. II, S. 2 hr. PR: Ed. 160 and 124. Gathering data, studying the farming problems of all-day students, young farmers, adult farmers, and planning the total program for the department. Mr. Butler and Staff

Graduate Division

239. PROGRAM BUILDING IN AGRICULTURAL EXTENSION. II. 3 hr. PR: Agr. Educ. 134 and 138 or permission of the instructor. Rural organizations in relations to program building. Leadership and group action. Over-all working and educational objectives. Principles, methods and goals in developing county extension programs. Mr. Anderson and Mr. Sizer

320, 321, 322, 323. SPECIAL TOPICS. I, II, S. 1-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.) Staff

350, 351, 352, 353. SEMINAR. I, II, S. 1 hr. Staff

380, 381. RESEARCH. I and II. 1-6 hr. per semester. Staff

AGRICULTURAL ENGINEERING

Professor LONGHOUSE; Associate Professor DICKERSON; Assistant Professors EMERSON and PHILLIPS; Instructors BANE and ELLIOTT.

Undergraduate Division

10. INTRODUCTORY AGRICULTURAL ENGINEERING. I. 3 hr. A general course introducing the several fields of Agricultural Engineering and how they are applied in Agriculture and Industry. 3 hr. rec. Mr. Longhouse

100. FARM STRUCTURES. II. 3 hr. PR: M. 102. Structural design and functional requirements of farm service buildings. 2 hr. rec., 3 hr. lab. Mr. Longhouse and Mr. Elliott

110. Application of Electricity to Agriculture. I. 3 hr. PR: E.E. 106. Economic application of electric light, heat, and power. 2 hr. rec., 3 hr. lab. Mr. Bane

140. Soil and Water Conservation. I. 3 hr. PR: C.E. 115. Engineering principles and practices in conservation, utilization, and management of soil and water resources. 2 hr. rec., 3 hr. lab. Mr. Dickerson

180, 181. Assigned Topics. I, II. 1-4 hr. per semester. Staff

190. Farm Machinery. II. 3 hr. PR: M.E. 113. Construction, operation, adjustment and testing of farm machines. 2 hr. rec., 3 hr. lab. Mr. Phillips

230. Farm Power. I. 4 hr. PR: M.E. 121. Fundamental theories underlying design and operation of internal combustion engines used in agriculture. 3 hr. rec. Mr. Longhouse and Mr. Elliott

Graduate Division

320, 321. Special Topics. I, II. S. 1-6 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

397. Research. I and II. 1-6 hr. Staff

AGRICULTURAL MECHANICS

Undergraduate Division

113. Farm Refrigeration. II. 3 hr. General course for agricultural students in farm refrigeration: different types of refrigeration systems, refrigeration plants, cold storage, food preservation, and storage-house construction. 2 hr. rec., 3 hr. lab. Mr. Bane

151. Mechanics of Soil and Water Conservation. I. 3 hr. Planning and installation of farm land drainage, contour strip cropping, terracing, and farm ponds. 2 hr. rec., 3 hr. lab. Mr. Dickerson

152. Farm Shop. I. 3 hr. Place of farm shop on farm. Construction and repair problems including carpentry, metal working, forging, fitting tools, repairing harness, and filing saws. Primarily for Vocational Agriculture teachers. 1 hr. rec., 6 hr. lab. Mr. Emerson

153. Farm Machinery. II. 3 hr. Principles underlying construction, adjustment, care, use, and repair of farm machinery. Tillage, harvesting, and seeding machinery. 2 hr. rec., 3 hr. lab. Mr. Phillips

155. Household Equipment. II. 2 hr. Planned to help students understand mechanical equipment in home and its effective use. 1 hr. rec., 3 hr. lab. Staff

159. Farm Structures. II. 3 hr. Fundamental principles of farm building construction. 2 hr. rec., 3 hr. lab. Mr. Longhouse and Mr. Elliott

170. Rural Electrification. I. 3 hr. Fundamentals of electricity and its application in the home and on the farm. Open to Agriculture students only or by consent. 2 hr. rec., 3 hr. lab. Mr. Bane

175. Farm Gas Engines and Tractors. I. 3 hr. General course for agricultural students in care, operation, and maintenance of farm gas engines and tractors. 2 hr. rec., 3 hr. lab. Mr. Longhouse and Mr. Elliott

180, 181. Assigned Topics. I, II, S. 1-4 hr. per semester. Staff

200. Rural Water Supply and Sanitation. II. 2 hr. PR: A.M. 170. Pump principles, planning installations of water systems, and sewage disposal systems. 1 hr. rec., 3 hr. lab. Mr. Emerson

252. Advanced Farm Mechanics. II. 3 hr. PR: Ag. M. 152. Forging, cold-iron work, tool fitting, woodworking; offers training for teaching shopwork in rural high schools. Mr. Emerson

253. Advanced Farm Machinery. II. 3 hr. PR: Ag. M. 153. Trends and economic use of farm machinery. Primarily for graduate vocational agriculture teachers. Open to Agriculture students only or by consent. 2 hr. rec., 3 hr. lab. Mr. Phillips

254. Farm Maintenance and Construction Welding. II. 3 hr. PR: Ag. Mech. 153. Characteristics and properties of metals used in farm machinery and equipment. Machinery repair including oxacetylene cutting and welding, AC and DC electric. 1 hr. lec., 2 three-hour labs. Mr. Emerson

255. Care and Repair of Home Equipment. II. 2 hr. For advanced undergraduate and graduate students. Construction, maintenance, and repair of household equipment. Their comparative cost and economic use. 1 hr. rec., 3 hr. lab. Mr. Bane

259. Functional Requirements of Farm Buildings. I. 3 hr. PR: Ag. M. 159 or consent. Special problems *re* livestock and storages. 2 hr. rec., 3 hr. lab. Mr. Longhouse and Mr. Elliott

270. Electricity in Agriculture. I. 3 hr. PR: Ag M. 170 or consent. 2 hr. rec., 3 hr. lab. Mr. Bane

Graduate Division

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

380, 381. Research. I and II. 1-6 hr. per semester. Staff

AGRONOMY AND GENETICS

Professors Pohlman, Galpin; Associate Professors Burger, Fairchild, Veatch; Assistant Professors Baughman, Haltiwanger, Ray; Instructors Bolyard, Sperow.

AGRONOMY

Undergraduate Division

1. Farm Crops. II. 4 hr. PR: Botany 2, or 104, or Biology 2. An introduction to general field crop production. 3 lect. 1 lab. Mr. Haltiwanger

2. Soils. I. 4 hr. PR: Chem. 2. An introduction to soil science. 3 lect. 1 lab. Mr. Pohlman and Mr. Sperow

10. Forest Soils. I. 4 hr. PR: Chem. 2. Introduction to soil science with particular emphasis on forest soils. 3 lect., 1 lab. Mr. Baughman

124. Climatology and Hydrology. II. 3 hr. Components of climate on a world and local basis related to land use. The Hydrological cycle with emphasis on surface soil and ground water phases. Mr. Galpin

180, 181. Assigned Topics. I, II. 1-4 hr. per semester. Staff

205. Soil Conservation. II. 3 hr. PR: Agron. 2 or 10. Principles of soil and water conservation in relation to soil erosion control, upstream flood control, physical land degradation, and agricultural crop production. 2 lect., 1 lab. Offered in 1956-57 and in alternate years. Staff

210. Fertilizer and Soil Fertility. I. 3 hr. PR: Agron. 2 or 10. Soil properties in relation to fertility and productivity of soils; evaluation of soil fertility; production of fertilizers and their use in increasing the fertility and productivity of soils. Mr. Pohlman

211. Soil Management. II. 3 hr. PR: Agron. 2 or 10. Using soil technology to solve soil management problems relating to cropping systems. Field diagnosis of soil problems will be stressed. Two half day farm visits. Offered in 1956-57 and in alternate years. Staff

216. Soil Classification and Judging. II. 3 hr. PR: Agronomy 2 or 10. The classification and mapping of soils. Theory and practice in soil classification, soil mapping and land judging. Offered in 1956-57 and in alternate years. Staff

230. Soil Physics. I. 3 hr. PR: Agron. 2 or 10. Physical properties of soils, water and air relationships and their influence on soil productivity. Offered in 1956-57 and alternate years. 2 lect., 1 lab. Mr. Baughman

251. Weed Control. I. 2 hr. PR: Agron. 1 and 2. Fundamental principles of weed control. Recommended control measures for and identification of common weeds. Mr. Veatch

252. Grain and Special Crops. II. 3 hr. PR: Agron. 1 and 2. Advanced study of methods in the production of grain and special crops. Varieties, improvement, tillage, harvesting, storage and uses of crops grown for seed or special purposes. Offered in 1956-57 and alternate years. Mr. Veatch

254. Pasture and Forage Crops. II. 4 hr. PR: Agron. 1 and 2. All phases of pasture and forage crop production, including identification, seeding, management, use. seed production, and storage of forage crops. 3 lect., 1 lab. Mr. Burger

Graduate Division

316. Soil Chemistry. I. 3 hr. PR: Consent. Fundamental chemical properties of soils in relation to plant growth; nature and properties of soil colloids; base exchange and soil acidity; availablity of plant food elements and soil-plant interrelationships. Offered in 1957-58 and in alternate years. Mr. Baughman

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree. Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. per semester. Recent literature pertaining to soil and crop production. Staff

380, 381, 382, 383. Research. I, II. 1-6 hr. per semester. Staff

BACTERIOLOGY

314. Soil Microbiology. II. 3 hr. PR: Agron. 2 and Bact. 141. Occurrence of micro-organisms in soils and their relationship to decomposition of organic matter, availabiliy of plant nutrients, and soil acidity; technique of isolation and study. Mr. Wilson

GENETICS

Undergraduate Division

†111. Elementary Genetics. I, II. 2 hr. PR: 6 hours of biological science. Elementary study of the principles of heredity. Mr. Ray

112. Genetics Laboratory. I, II. 1 hr. Breeding experiment with Drosophila. Mr. Ray

180, 181. Assigned Topics. 2-4 hr. PR: Genetics 111 or 221 and consent. Staff

220. Crop Breeding. II. 3 hr. PR: Gen. 11 or 221. Methods and basic scientific principles involved in the improvement of leading cereal and forage crops through hybridization and selections. Offered in 1957-58 and alternate years. Mr. Veatch

221. Genetics. I. 3 hr. PR: 8 hours in biological science. Fundamental principles of inheritance. Mr. Ray

222. Advanced Genetics. II. 3 hr. PR: Genetics 111 or 221, and consent. Mr. Ray

224. Human Genetics. II. 2 hr. PR: Genetics 111 or 221. A study of inheritance in man. Mr. Ray

Graduate Division

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree. Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

†Students majoring in curricula requiring Genetics 221 may not receive credit for Genetics 111, and credit will not be given for Genetics 221 to those students who have previously earned credit for Genetics 111.

350, 351, 352, 353. SEMINAR. I, II. 1 hr. per semester. Recent literature pertaining to breeding, genetics, and cytology. Staff

380, 381, 382, 383. RESEARCH. I, II. 1-6 hr. per semester. Staff

ANIMAL HUSBANDRY

Professors LIVESAY, OLSON, and ANDERSON; Associate Professors CLARK, HYRE, and WELCH; Assistant Professors KIDDER and MUNRO.

Undergraduate Division

ANIMAL HUSBANDRY

11. TYPES, BREEDS, AND MARKET CLASSES. I. 3 hr. Mr. Welch

101. ANIMAL NUTRITION. I. 3 hr. Digestion and metabolism of food nutrients, nutrient requirements of farm animals, and nutritive values of feeds and rations. Mr. Anderson

138. GRADING AND SELECTION. II. 2 hr. (2 labs.) Mr. Kidder

141. BEEF PRODUCTION. I. 3 hr. (1 lab.) Mr. Livesay

142. PORK PRODUCTION. II. 3 hr. (1 lab.) Mr. Anderson

143. ADVANCED JUDGING. I. 2 hr. (2 labs.) Students taking this course will be required to participate in a tour of inspection of representative flocks and herds. Mr. Kidder

162. SHEEP PRODUCTION. II. 3 hr. (1 lab.) Mr. Welch

166. MEATS. II. 2 hr. Lectures and demonstrations in identification, selection, and nutritive value of meat cuts. Primarily for home economics students. Staff

167. MEATS. I. 3 hr. (2 labs.) Farm butchering, curing, and care of meats. Visit to one of large packing houses of Pittsburgh required. Staff

169. MEAT JUDGING. I. 2 hr. Tour of representative packing plants required. Staff

180, 181. ASSIGNED TOPICS. I, II. 1-4 hr. per semester. Staff

200. SEMINAR. II. 1 hr. Primarily for seniors. No credit for graduate students. Staff

202. ADVANCED MEATS. II. 2 hr. (2 labs.) PR: A.H. 167. Studies covering complete correlation of animal types, quality and finish as against carcass yields, percentage, cuts, etc. Staff

223. ADVANCED LIVESTOCK PRODUCTION. I. 3 hr. (1 lab.) PR: A.H. 101. Phases of beef production involving problem work in specialized commercial and purebred fields, including processing. Mr. Livesay

224. ADVANCED LIVESTOCK PRODUCTION. II. (1 lab.) PR: A.H. 101. Special studies in wool and market-lamb production, including processing. Mr. Welch

225. REPRODUCTION OF FARM ANIMALS. II. 3 hr. PR: Genetics 221 or consent. The anatomy and physiology of reproduction in farm animals. (Not open to students having received credit for D.H. 225). Mr. Kidder

226. BREEDING OF FARM ANIMALS. II. 3 hr. PR: Genetics 221 or consent. The application of principles of quantitative population genetics to the improvement of farm animals. (Not open to students having received credit for D.H. 226). Mr. Dunbar

Graduate Division

303. ADVANCED ANIMAL NUTRITION. II. 3 hr. PR: A.H. 101, and Chem. 31 or 233. Chemistry of feeding stuffs and of animal body, as well as of digestion and metabolism of food nutrients. Offered in alternate years beginning in 1957-58. Mr. Anderson

320, 321, 322, 323. Special Topics. I, II, S. 1-4 hr. (1 hr. credit in special cases only). Advanced study in such topics as vitamins, minerals, and internal secretions in relation to health, growth, reproduction, and newer studies in the field of animal nutrition and breeding. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours). Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. Animal, poultry, and dairy husbandry. Staffs

370. Methods of Animal Research. (With Dairy and Poultry Husbandry). I, II. 3 hr. Research methods used in animal nutrition and breeding. Offered in 1957-58 and in alternate years. Messrs. Anderson, Dunbar, and Clark

380, 381, 382, 383. Research. I, II. 1-6 hr. per semester. For graduate students working on a problem in preparation of a thesis. Staff

NOTE: Students assigned to a 200 course for graduate credit will be required to prepare a semester paper on some special phase of the course in addition to the regular course work.

POULTRY HUSBANDRY

Undergraduate Division

1. Poultry Husbandry. II. 4 hr. (1 lab.) Introductory. Mr. Hyre

103. Poultry Feeding and Management. II. 3 hr. Factors in poultry production, feeding, and management as related to scientific investigations. Offered in 1957-58 and in alternate years. Staff

105. Poultry Judging. I. 2 hr. (2 labs.) Practice in selection of birds for both standard and production qualities. Mr. Hyre

106. Preparation and Grading of Eggs and Poultry for Market. I. 2 hr. (1 lab.) Latest methods in killing, dressing, and grading of poultry. Grading, storing, and processing eggs for market. Offered in 1957-58 and alternate years. Mr. Hyre and Mr. Clark

108, 109, 110. Poultry Plant Experience. I, II, S. 1 hr. (3-hr. lab.) Experience in operating a poultry breeding farm, including feeding, trapnesting, incubation, and pedigreeing. A report will be required Mr. Clark

180, 181. Assigned Topics. I, II, S. 1-4 hr. per semester. Staff

200. Senior Seminar. II. 1 hr. Primarily for seniors. No credit for graduate students. Staff

201. Advanced Poultry Production. I. 3 hr. PR: P.H. 1 or equivalent for all students; P.H. 103 or A.H. 101 for graduate credit. Special phases of broiler and egg production, disease control, labor saving studies, recent designs in building and heating equipment.

212. Breeding and Incubation: Principles and Practices. I. 3 hr. (1 lab.) PR: Genetics 221 or consent. Study of methods available for improving and reproducing meat and egg quality. Offered in 1956-57 and alternate years. Mr. Hyre

213. Turkey Production. I. 3 hr. (1 lab.). PR: P.H. 1 or equivalent for all students; P.H. 103 or A.H. 101 for graduate credit. Current methods in turkey production, including varieties, selective breeding, nutrition, and marketing. Offered in 1956-57 and alternate years. Mr. Clark

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 1-4 hr. (1 hr. credit in special cases only). Advanced study in such topics as vitamins, minerals, and internal secretions in relation to health, growth, egg production, reproduction, and newer studies in the field of animal nutrition and breeding. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit 6 hours). Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. Poultry, animal, and dairy husbandry. Staffs

370. Methods of Animal Research. I, II. 3 hr. (With Animal and Dairy Husbandry departments). Research methods used in animal nutrition and breeding. Offered in 1957-58 and alternate years.
Mr. Clark, Mr. Anderson, and Mr. Dunbar

380, 381, 382 383. Research. I and II. 1-6 hr. per semester. For graduate students working on a problem in preparation of a thesis. Staff

NOTE: Students assigned to a 200 course for graduate credit will be required to prepare a semester paper on some special phase of the course in addition to the regular course work.

ANIMAL PATHOLOGY

102. Animal Pathology. I. 3 hr. Diseases of domestic animals, with special emphasis on common diseases. Mr. Munro

206. Parasites and Pathology. II. 3 hr. PR: Biol. 1 and 2 or equivalent. Common parasites of farm animals, their control, and their effect upon the host.
Mr. Olson

DAIRY HUSBANDRY

Professor Henderson; Associate Professors Weese, Dunbar, and Porterfield; Assistant Professor Ackerman; and Instructor Steele.

Undergraduate Division

11. Dairy Production. I. 3 hr. Introductory. Breeds of Dairy Cattle, their selection, feeding and management. Mr. Henderson and Mr. Ackerman

12. Dairy Technology. II. 3 hr. Introductory. Composition and properties of milk and milk products; butterfat testing; manufacture of dairy products.
Mr. Weese and Mr. Ackerman

101. Animal Nutrition. I. 3 hr. Digestion and metabolism of feed nutrients, nutrient requirements of farm animals and nutritive values of feeds and rations.
Mr. Anderson

102. Ice Cream and Refrigeration. I. 3 hr. Manufacture of ice cream; principles of refrigeration involved in the manufacture and storage of dairy products. Offered in 1956-57 and alternate years. Mr. Weese

103. Market Milk. I. 3 hr. Market milk and the manufacture of dry and condensed milk. Offered in 1957-58 and alternate years. Mr. Weese

104. Butter and Cheese. II. 3 hr. Manufacture of butter and various types of cheese. Offered in 1957-58 and alternate years. Mr. Weese

107. Milk and Public Health. I. 2-3 hr. Food value of milk and its production and processing in relation to public health. Mr. Henderson and Mr. Weese

123. Judging Dairy Cattle. II. 2 hr. A laboratory course in the fundamentals of judging dairy cattle. Mr. Porterfield

124. Judging Dairy Products. II. 2 hr. A laboratory couse in evaluating and judging dairy products. Mr. Weese

180, 181. Assigned Topics. I and II. 1-4 hr. per semester. For advanced dairy students who desire to pursue study along some particular phase of dairying.
Staff

200. Seminar. II. 1 hr. Primarily for seniors. No credit for graduate students. Staff

204. Advanced Dairy Technology. II. 4 hr. Chemical and bacteriological methods used in the technical control of milk and milk products. Offered in 1956-57 and alternate years. Mr. Weese

221. Dairy Cattle. I. 3 hr. History of breeds and families of registered dairy cattle. Organization and activities of breeding associations. Mr. Porterfield

222. Milk Production. II. 4 hr. Feeding and management of dairy cattle.
Mr. Henderson

225. Reproduction of Farm Animals. II. 3 hr. PR: Genetics 221 or consent. The anatomy and physiology of reproduction in farm animals (not open to those having credit for A.H. 225). Mr. Kidder

226. Breeding of Farm Animals. II. 3 hr. PR: Genetics 221 or consent. The application of principles of quantitative population genetics to the improvement of farm animals (not open to those having credit for A.H. 226). Mr. Dunbar

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. Advanced study in such topics as vitamins, minerals, and internal secretions in relation to health, milk production, reproduction, and new studies in the field of animal nutrition and breeding. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.) Staff

330. Advanced Milk Production. II. 3 hr. PR: D.H. 11 and A.H. 101 or equivalent. Advanced study of the feeding, breeding and management of dairy cattle. Mr. Henderson and Mr. Ackerman

350, 351, 352, 353. Seminar. I, II. 1 hr. Dariy, poultry, and animal husbandry. Staffs

370. Methods of Animal Research (with Animal and Poultry Husbandry). I. 3 hr. Research methods used in animal nutrition and breeding. Offered in 1957-58 and alternate years. Mr. Anderson, Mr. Dunbar, and Mr. Clark

380, 381, 382, 383. Research. I, II. 1-6 hr. per semester. For graduate students working on a problem in preparation of a thesis. Staff

BACTERIOLOGY

246. Dairy Bacteriology. II. 3 hr. See under "Bacteriology," page 97.

CHEMISTRY

218. Dairy Chemistry. I. 3 hr. See under "Biochemistry," page 87.

HORTICULTURE

Professors Marsh, Westover, and Childs; Associate Professor Schubert; Assistant Professors Dye and Neal; Instructor Marvel.

Undergraduate Division

1. Vegetable Production. II. 3 hr. The vegetable garden. Prerequisite to all courses in olericulture. Mr. Westover and Mr. Marvel

2. Fruit Production. I. 3 hr. Tree fruits and small fruits. Mr. Childs

39. Landscape Design. I. 3 hr. (1 lect.; 1 scheduled lab., 1 arranged lab.) The design of indoor and outdoor living space as a unit controlled by the site. Final designs are executed in model form. Staff

104. Plant Propagation. II. 3 hr. Plant propagation and nursery practice. Mr. Neal

106. Application of Sprays, Dusts and Fumigants. II. 2 hr. PR: Ent. 202 or Plant Path. 103 and Hort. 1, 2, or 39. (1 lect., 1 lab.) Training in the use of machinery and materials in the application of fungicides, insecticides, herbicides, hormones, and plant nutrients to horticultural crops. Development and interpretation of spray schedules. Mr. Marsh and Mr. Adams

115. Judging and Identification of Apple Varieties. I. 1 hr. Two laboratory periods first half of semester. Mr. Childs

116. Flower Judging. II. 1 hr. One laboratory period per week. Mr. Dye

117. Vegetable Identification and Judging. I. 1 hr. Identification and judging of the common vegetables. Laboratory course. Mr. Marvel

140. Woody Plant Materials. II. 3 hr. Trees, shrubs, and vines, their identification, culture and use. Offered in 1957-58 and alternate years. Mr. Neal

141. Greenhouse Management. II. 3 hr. A practical sutdy of greenhouse operations. Offered in 1956-57 and alternate years. Mr. Dye

151. Flower Arrangement. I. 3 hr. PR: Hort. 141 or consent of the instructor. A basic course in flower arrangement to cover all occasions for the home and retail flower shop. Staff

180, 181. Assigned Topics. I and II. 1-4 hr. per sem. Limit of six hours credit. Staff

206. Small-Fruits Production. I. 3 hr. A practical and scientific study of standard cultural practices in the small-fruits plantation. Mr. Childs

212. Commercial Tree-Fruit Production. I. 3 hr. Latest methods in pruning, spraying, soil culture, and other production practices for fruit trees from the practical and scientific standpoint. Mr. Schubert

232. Commercial Vegetable Production. II. 2 hr. Current methods of commercial vegetable crop production, including equipment, soil and climatic adaptation, plant raising, soil culture. harvesting, grading, and packing. Includes 3-day inspection trip. Mr. Westover

234. Laboratory Instruction Tour. II. 1 hr. PR: Hort. 232 or concurrently. A 3-day inspection trip in connection with Hort. 232. Mr. Westover

239. Advanced Landscape Design. I. 3 hr. PR: Hort. 39, 140, 150, or permission of the instructor. Advanced studies in landscape design. Staff

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.) Staff

380, 381, 382, 383. Research. I, II, S. 1-6 hr. per sem. (Maximum credit, 6 hrs.) Staff

PLANT PATHOLOGY, BACTERIOLOGY, AND ENTOMOLOGY

Professors Leach, Barnett, Dorsey, Lilly, and True; Associate Professors Wilson and Gallegly; Assistant Professors Adams, Elliott, and Hansen; Instructor Hedrick.

BACTERIOLOGY

Undergraduate Division

141. General Bacteriology. I, II, S. 4 hr. (3 hr. for engineering students.) PR: Chem. 1 and 2. Introductory, morphological, cultural and physiological characteristics of bacteria, and application of bacteriology to agriculture, home economics, sanitation, and health. Mr. Wilson

180, 181. Assigned Topics. I, II, S. 1-4 hr. per semester. Mr. Wilson

246. Dairy Bacteriology. I. 4 hr. PR: Bact. 141. Microorganisms in market milk, in manufacture of butter, cheese, and fermented milk, and in milk hygiene; practice in preparation of media; making bacterial counts in milk. Offered in 1956-57 and alternate years. Staff

248. Sanitary Bacteriology. I. 3 hr. PR: Bact. 141. Standard bacteriological methods used in routine examination of water and sewage. Offered in 1957-58 and alternate years. Mr. Wilson

Graduate Division

314. Soil Microbiology. II. 4 hr. PR: Bact. 141 and organic chemistry. Occurrence and distribution of microorganisms in soils and their inter-relationships. Their role in decomposition of organic matter and other transformations of soil constituents. Mr. Wilson

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.) Staff

380, 381, 382, 383. Research. I, II, S. 1-6 hr. per semester. Mr. Wilson

ENTOMOLOGY

Undergraduate Division

152. Forest Entomology. II. 3 hr. PR: Forestry 112. Relationships between insects and the forest; recognition and control of important species. This course is primarily designed for forestry students. Mr. Dorsey and Mr. Hansen

180 181. Assigned Topics. I, II. 1-4 hr. Ent. 202 or equivalent. Special studies in insect ecology, life-histories, macro and micro anatomy, taxonomy, physiology, and control methods. Mr. Dorsey and Mr. Hansen

200. General Entomology. I. 3 hr. PR: Biology 2 or equiv. An introduction to the general biology of insects, their recognition and importance to human welfare. Does not carry graduate credit for majors in Entomology. Mr. Dorsey and Mr Hansen

202. Agricultural Entomology. II. 4 hr. PR: Biol. 1 and 2. A course dealing with the basic aspects of insect life, emphasizing the study of economically important insects and their control. Designed to meet the needs of students in agriculture. Does not carry graduate credit for majors in Entomology. Mr. Dorsey

203. Economic Entomology. II. 3 hr. PR: Ent. 202. Evaluation of insect control problems; study of survey and control methods; equipment; insecticides. Offered 1956-57 and alternate years. Mr. Hansen

208. Insect Bionomics. I. 4 hr. PR: Ent. 102. Relationships of insects to plants, other insects, higher animals, and their physical environments. Mr. Dorsey

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-6 hr. PR: Ent. 102 and 370. Advanced study of entomological topics of special interest to the student. Staff

370. Entomological Methods and Technique in Research. I, II. 4 hr. PR: Ent. 200 or 202. Methods used in the study of ecology; life-history; population density; dispersal; migration; evaluation of host damage; evaluation of control efficiency. Staff

380, 381, 382, 383. Research. I, II, S. 1-6 hr. Staff

PLANT PATHOLOGY

Undergraduate Division

103. Elementary Plant Pathology. I. 4 hr. PR: Bact. 141. Nature and causes of plant diseases; methods of control. Mr. Leach and Mr. Elliott

106. Application of Sprays, Dusts and Fumigants. II. 2 hr. PR: Ent. 102 or Plant Path. 103 and Hort. 1, 2, or 39 or its equivalent. One lecture and one laboratory. Training in the use of machinery and materials in the application of fungicides, insecticides, herbicides, hormones, and plant nutrients to horticultural crops. Also the development and interpretation of spray schedules. Mr. Adams and Mr. Marsh

153. Forest Pathology. I. 4 hr. PR: Biology 2 and For. 112. Important diseases of forest and shade trees; causes and methods of control. Mr. True

180, 181. Assigned Topics. I, II. 1-4 hr. per semester. Staff

202. General Plant Pathology. II. 4 hr. PR: Bact. 141 and either Plant Path. 103, 153, or 202 or consent. Primarily for graduate students and qualified seniors majoring in botany, biology, or agricultural science. Nature of diseases in plants with practice in laboratory methods. Offered in 1957-58 and alternate years. Mr. Leach, Mr. Elliott, Mr. Gallegly and Staff

203. Mycology. I. 4 hr. Lectures, field and laboratory studies of parasitic and saprophytic fungi. Mr. Barnett

204. Diseases of Fruit Crops. I. 2 hr. Plant Path. 103. The important diseases of commercial fruits; causes and methods of control. Offered in 1956-57 and alternate years. Mr. Adams

205. Diseases of Ornamentals. II. 2 hr. PR: Plant Path. 103 or 153. The important diseases of ornamentals; causes and methods of control. Offered in 1956-57 and alternate years. Mr. Elliott

206. Diseases of Vegetable Crops. II. 2 hr. PR: Plant Path. 103. The important diseases of potatoes and vegetable crops: causes and methods of control. Offered in 1956-57 and alternate years. Mr. Gallegly

207. Diseases of Field and Forage Crops. II. 2 hr. PR: Plant Path. 103. The important diseases of cereals, legumes, and grasses: causes and methods of control. Offered in 1956-57 and alternate years. Mr. Elliott

Graduate Division

312. Pathological Anatomy. I. 3 hr. Abnormal tissue changes in plants. PR: Plant Path. 103, 153, or Botany 213. Offered in 1956-57 and alternate years. Mr. True

313. Insect Transmission of Plant Diseases. I. 3 hr. PR: Plant Path. 103, 153, or Ent. 102. Role of insects in spread and development of plant diseases. Offered in 1957-58 and alternate years. Mr. Leach

320, 321, 322, 323. Special Topics. I, II. S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hours; maximum credit, 6 hours.) Staff

330. Physiology of the Fungi. II. 4 hr. PR: Organic chemistry, mycology, and bacteriology, or consent of instructor. Physiological aspects of growth, reproduction, and parasitism of fungi, with emphasis on nutrition, environment, and other biotic factors. Mr. Barnett and Mr. Lilly

340. Taxonomy of the Fungi. I. 3 hr. PR: Plant Path. 203. Collection and identification of fungi, with emphasis upon those of economic importance. Offered in 1956-57 and alternate years. Mr. Barnett

350, 351. Seminar. I, II. 1 hr. per sem. Mr. Leach and Staff

380, 381, 382, 383. Research. I, II, S. 1-6 hr. Staff

Division of Forestry

GENERAL INFORMATION

Organization and Purpose

In its Division of Forestry, West Virginia University offers four curricula of four years each, all leading to the degree of Bachelor of Science in Forestry. A student may major in forest management, wildlife management, wood technology, or wood industry.

The field of forestry is a broad one. Those who enter it must receive an education of a breadth equal to that of the profession which they expect to make their life work. The professional forester's work includes such diversified activities as timber production, logging, surveying, timber estimating, park management, forest protection, forest-stand improvement, flood control, watershed protection, soil erosion control, submarginal land development, restoration of game, forest-range management, stream development, lumber dry-kiln operation, plywood and furniture manufacture, timber preservation, and construction of public camps and summer home sites. The wide scope of the modern field of forestry demands a thorough basic training for the professional forester. This accounts for the large number of required courses in the professional forestry curricula. If a forester wishes to specialize in any one branch of the field, graduate work is needed.

Regardless of the major selected, the curricula include a two years' broad foundational study of the natural and social sciences basic to the field of forestry, followed in the junior and senior years by a more detailed study of forestry principles and techniques. Many of the courses in the curricula provide for field laboratories, enabling the student to see first-hand applications of the principles presented in the classroom and to experiment with the various techniques he is learning.

In addition to the forest work which forms a part of the regular courses at Morgantown and the Forestry Camp described on page 101, the student is expected to devote the summer after his junior year to employment with a forest-using agency or private industry. This gives him further experience which is valuable in connection with his fourth-year studies, as well as in obtaining permanent employment after graduation.

Many opportunities for summer employment are arranged through the Division of Forestry with the United States Forest Service and with private forest industries which are members of the National Lumber Manufacturers Association. The remuneration for such temporary undergraduate employment varies from about $175 to $250 per month.

Facilities for Instruction

The Division of Forestry of West Virginia University is one of twenty-six forestry schools in the country which are fully accredited by the Society of American Foresters. Situated in Morgantown, it is favorably located in relation to forests available for educational and research use. Coopers Rock State Forest, an area of 13,000 acres fronting on Cheat Lake, is less than ten miles from the institution. By agreement between the University and the Conservation Commission of West Virginia an 8,000-acre part of this forest has been set aside as the West Virginia University Forest, Division of the Cooper's Rock State Forest. This area is managed by the Division of Forestry for research and educational purposes. The Monongahela National Forest lies within forty-five miles of Morgantown. The University Farm Woods of 100 acres bearing mature timber is within two miles. Recent acquisition by the University of the 500-acre Tygart Valley Forest at Dailey has increased the educational and research facilities of the Division. These forests are utilized for study by forestry students throughout their four years of training.

During 1951, an agreement was completed between West Virginia University and the Island Creek Coal Company making the 3,000-acre Island Creek Experimental Forest available for research in applied forestry. The Division of Forestry maintains a resident forester at Holden who is in charge of the research forest in nearby Mingo County. Methods of forest production on a commercial basis and suited to the forest types and topography of southern West Virginia are being studied. The experimental work is open to inspection by forestry students.

A lumber dry kiln, portable sawmill, and experimental wood treating plant have recently been acquired by the Division of Forestry.

The dry kiln is of compartment type, cross circulating, steam heated, with automatic self-recording temperature and humidity controls. It has a capacity of approximately five thousand board feet of lumber per charge and provides properly kiln-dried lumber for University use. It provides for student experience in dry kiln operation.

The portable sawmill is of standard type that may be adapted to permanent, portable, or mobile use. It is driven by a 75-horsepower diesel engine. A truck-tractor and semi-trailer are used in transporting the mill or hauling logs and lumber. The unit is used for training in mill installation, adjustment, and operation. Students participate in logging and sawmilling operations conducted under conditions similar to ordinary small industrial operations.

The experimental wood treating plant is outstanding in its facilities for duplicating any of the commercial methods of pressure treating wood. A recording instrument keeps a time, pressure, vacuum, and temperature record of each treating operation. In addition, indicating vacuum pressure and temperature gauges are installed, including a mercury vacuum gauge. The equipment was designed especially for West Virginia University to be used in laboratory instruction and research.

The facilities of the Division of Forestry also include a wood working shop, plywood testing machine, and experimental plywood hot presses. A complete collection

of samples of the commercial woods of the United States is maintained for study. The wood technology laboratory is equipped with microscopes, a microtome for preparing wood sections used in identifications, wood moisture meters, and a portable precision potentiometer. An experimental electrically heated condenser type dry kiln with automatic temperature and humidity controls is used for practice in addition to the five thousand-board foot capacity steam heated dry kiln. The forestry library has been developed primarily for student use. It contains over 7,000 cataloged books and bulletins covering the field of forestry. All periodicals of interest to the forester may be readily found. Student organizations are decorating the library with pictures and trophies, creating interesting and pleasant surroundings for study.

The West Virginia University Forestry Club

Regardless of what branch of forestry the student enters after graduation, he finds it necessary to direct the work of crews of skilled and semi-skilled men. The ability to lead men in effective work is, therefore, of first importance to the forester. Leadership training is provided through the Forestry Club (W.V.U. Foresters). This organization, although completely managed and financed by the students, forms a definite part of every forester's work at West Virginia University.

Each man has specific duties and responsibilities in the operation of the club. The results of these activities are considered together with scholastic attainments in the placement of graduates.

Club activities include dinner gatherings with invited speakers, meetings where various phases of the forestry industry are discussed, and publication of the *Cruiser*, the foresters' yearbook. The club also sponsors athletic teams which participate in intramural contests and offers a variety of social affairs. Annual dues are five dollars, payable at time of registration.

At the time of the Foresters' Annual Banquet, an axe is awarded by the faculty to the senior student who has demonstrated his proficiency as the best all-round forester of the club.

Camp Wood

The Forestry Camp, held every summer for students who have completed their sophomore year of the professional curricula, is situated near Alvon about 12 miles north of White Sulphur Springs, in Greenbrier County, on the southern end of the Monongahela National Forest. This location offers a great variety of forest types, conditions, activities, and industries.

The instruction program provides training and practical experience in land surveying, timber estimating, and in specialized work which is different for each of the three major fields of study. Forest Management majors spend a week on a special silvicultural study, while the utilization majors make a study of wood industries in southern West Virginia. The program for these two groups culminates in a one-week trip into the southern pine region, where silvicultural operations and wood-using industries are studied. Wildlife majors spend two weeks in special fish and game studies under the supervision of members of the wildlife staff.

During the summer the students carry out a small logging operation of their own under the supervision of experienced timber cutters and loggers. Cutting is done on the Meadow Creek Management Area, an 80-acre tract heavily stocked with mature mixed oak and white pine. The area has been reserved by the U. S. Forest Service for this purpose. Working through the District Ranger, the students purchase a small block of marked timber, for which they pay current stumpage prices. After they have operated the timber, the students sell the logs to local sawmills. This single project provides the practical experience in surveying, topographic mapping, timber estimating, timber marketing, stumpage purchase, planning of logging operation, felling, bucking, swamping, construction of skidways, skidding, scaling, and sale of logs. Proceeds from the operation are divided equally among the students who participate.

The main social event of the camp is its Field Day which is held sometime during the last two weeks of camp. The students and their guests compete in traditional contests, including a softball game between the students and alumni. An exhibit of the work of the camp, swimming, and dinner are other features. At the 1939 Field Day the camp was dedicated to A. A. Wood, who was at that time supervisor of the Monongahela National Forest.

The costs of the entire session at Camp Arthur Wood are $40 for tuition ($80 for non resident students) and $72 plus tax for food and lodging, payable to the University Comptroller at time of registration. Each student is required to pay for his room and board on scheduled trips from Camp. The expenses for such trips should not exceed $40 for the summer and generally are much less.

The Society of American Foresters

The S.A.F. is a professional society which accepts as members only those persons actually engaged in technical forestry work or studying in preparation for such work. Its objects are "to represent, advance, and protect the interests and standards of the profession of forestry, to provide a medium for exchange of professional thought, and to promote the science, practice, and standards of forestry in America." The Society publishes the *Journal of Forestry*. The scope of its program and various divisions within the society are of interest to all who are connected with the forestry profession. Juniors and seniors in the Division of Forestry may join the Society as "student members." They receive the *Journal* at a special rate, take part in meetings of the West Virginia Chapter, and have all other privileges of regular membership, except that of voting. Upon graduating they may become regular members.

The West Virginia Chapter of the Allegheny Section, S.A.F., was organized in 1945 for the purpose of unifying the professional foresters working in the State. The annual meeting of the Chapter is arranged so that student members may attend as a part of their school program.

REQUIREMENTS FOR THE DEGREE

The Division of Forestry offers four curricula leading to the degree of Bachelor of Science in Forestry. The first year of work is the same in all four, except that students majoring in wood technology must take Mathematics 3, College Algebra, during the first semester, and Mathematics 4, Plane Trigonometry, during the second semester. In order to take Mathematics 3, the student must offer 1½ units of algebra in his entrance credits or take Mathematics 2 as a prerequisite.

FIRST YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Biology 1—General	4	Biology 2—General	4
Chemistry 1—General	4	Chemistry 2—General	4
English 1—Composition	3	English 2—Composition	3
Forestry 1—Profession	1	Forestry 2—Profession	1
Forestry 3—Convocation	0	Forestry 4—Convocation	0
Mathematics 2 (3)—Algebra	3	Mathematics 10 (4)—Plane Trig	3
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Phys. Educ. 1—General Program	1	Phys. Educ. 2—General Program	1
	18		18

The curricula for the last three years are shown separately as follows. In each curriculum the student will have an opportunity to take elective courses that will complete a well-rounded course of study.

FOREST MANAGEMENT

The forest management curriculum offers a strong basic course in forestry leading particularly to employment in the management of forest land. It is designed to train the student for a professional forestry career in either public or private forestry. Graduates are prepared to hold positions with the various state forestry and conservation departments, the U.S. Forest Service, the Forestry Division of the U.S. Indian Service, the Soil Conservation Service, and other federal or state agencies employing professional foresters. They may also be employed by private forest land owners—both corporate and individual—or may enter business as consulting foresters. This curriculum provides a good background for graduate work in all phases of forest production management.

SECOND YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Agronomy 10—Forest Soils	4	Botany 68—Dendrology	3
Botany 61—Systematic	2	Botany 71—Plant Physiology	2
Botany 67—Dendrology	3	C. E. 6—Topographic Mapping	2
C. E. 5—Land Surveying	4	English 13—Expository Writing	2
Economics 1—(Ag. Ec. 102)—Principles	3	Forestry 6—Convocation	0
Forestry 5—Convocation	0	Forestry 11—Silvics	3
Mil. or Air Sci. 3	2	Forestry 21—Mensuration	4
	18	Mil. or Air Sci. 4	2
			18

SUMMER PRECEDING THIRD YEAR

10 Weeks—10 Hours Credit

Forestry 101—Surveying Field Practice	3
Forestry 102—Mensuration Field Practice	4
Forestry 103—Forest Management Practices	3
	10

THIRD YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Forestry 112—Silvicultural Systems	3	Forestry 113—Seeding & Planting	3
Forestry 131—Wood Identification	3	Forestry 114—Forest Economics	3
Forestry 151—Protection	2	Forestry 125—Policy & Administration	3
Physics 1—Introductory	4	Forestry 133—Lumbering	3
Electives	5	Electives	5
	17		17

FOURTH YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Forestry 116—Regional Silviculture	2	Entomology 152—For. Entomology	3
Forestry 123—Management	4	Forestry 134—Forest Products	3
Forestry 124—Forest Finance	3	Forestry 141—Wildlife Management	3
Forestry 126—Forest Measurement by Aerial Photographs	2	Electives	7
Plant Path. 153—Forest Pathology	4		
Electives	3		
	18		16

WILDLIFE MANAGEMENT

The wildlife management curriculum is designed to give basic undergraduate training in wildlife and fisheries biology. Students who elect this curriculum will satisfy the requirement for graduation by completing successfully 150 credit hours, including all the required courses listed below, and elective courses in botany, zoology, bacteriology, and other related fields. Those completing the curriculum are granted the degree of Bachelor of Science in Forestry.

Many wildlife and fisheries biology positions require the Master's degree, and majors in this curriculum are encouraged to enroll for graduate work in other institutions. Graduates in wildlife management will, however, meet all requirements for taking the U.S. Civil Service examination for biologist, and will ordinarily meet all requirements for the entering examination in general forestry.

SECOND YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Agronomy 10—Forest Soils	4	Botany 68—Dendrology	3
Botany 61—Systematic	2	Botany 71—Plant Physiology	2
Botany 67—Dendrology	3	C. E. 6—Topographic Mapping	2
C. E. 5—Land Surveying	4	Forestry 6—Convocation	0
Economics 1—(Ag. Ec. 102)—Principles	3	English 13—Expository Writing	2
Forestry 5—Convocation	0	Forestry 11—Silvics	3
Mil. or Air Sci. 3	2	Forestry 21—Mensuration	4
	18	Mil. or Air Sci. 4	2
			18

SUMMER PRECEDING THIRD YEAR

10 Weeks—10 Hours Credit

Forestry 101—Surveying Field Practice	3
Forestry 102—Mensuration Field Practice	4
Forestry 105—Land Utilization Practices	3
	10

THIRD YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Forestry 112—Silvicultural Systems	3	Forestry 113—Seeding & Planting	3
Forestry 131—Wood Identification	3	Forestry 114—Forest Economics	3
Forestry 151—Protection	2	Forestry 125—Policy & Administration	3
Physics 1—Introductory	4	Forestry 144—Forest Zoology	3
Electives	5	Electives	5
	17		17

FOURTH YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Forestry 123—Management	4	Entomology 152—For. Ent.	3
Plant Path. 153—Forest Pathology	4	Forestry 134—Forest Products	3
Electives	9	Forestry 141—Wildlife Management	3
		Forestry 145—Life Histories of Game Animals	3
		Electives	5
	17		17

WOOD TECHNOLOGY

The curriculum in wood technology is intended to prepare students to pursue graduate work in the technical phases of wood use or to enter directly into positions dealing with the conversions of forest crops into useful products. Such positions may be either governmental or industrial, with both groups further divided into various degrees of administrative, research, or developmental effort. Students electing to enter the field of wood technology should demonstrate a marked facility in mathematics, physics, and chemistry, since these basic sciences form the foundation for a large part of the knowledge involved in the properties and processing of wood.

SECOND YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Agronomy 10—Forest Soils	4	Botany 68—Dendrology	3
Botany 67—Dendrology	3	Botany 71—Plant Physiology	2
C. E. 5—Land Surveying	4	C.E. 6—Topographic Mapping	2
Economics 1 (Ag. Ec. 102)—Principles	3	English 13	2
Forestry 5—Convocation	0	Forestry 6—Convocation	0
Mathematics 5—Analytical Geom.	4	Forestry 11—Silvics	3
Mil. or Air Sci. 3	2	Forestry 21—Mensuration	4
	20	Mil. or Air Sci. 4	2
			18

SUMMER PRECEDING THIRD YEAR

10 Weeks—10 Hours Credit

Forestry 101—Surveying Field Practice	3
Forestry 102—Mensuration Field Practice	4
Forestry 104—Forest Utilization Practices	3
	10

THIRD YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Chemistry 131—Organic	4	Forestry 114—Forest Economics	3
Forestry 112—Silvicultural Systems	3	Math 108—Integral Calculus	4
Forestry 131—Wood Identification	3	M. E. 20—Mechanical Drawing	3
Math 107—Differential Calculus	4	Physics 112—General	5
Physics 111—General	5		
	19		15

FOURTH YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Chemistry 105—Qualitative Analysis.	4	Forestry 134—Forest Products	3
Forestry 123—Management	4	Forestry 135—Seasoning & Pres.	4
Forestry 132—Properties of Wood	3	Forestry 133—Lumbering	3
Mechanics 101—Statics	3	Mech. 102—Mechanics of Materials	4
Plant Path. 153—Forest Pathology	4		
	18		14

WOOD INDUSTRY

The four-year Wood Industry curriculum leads to a degree of Bachelor of Science in Forestry and is designed primarily to develop qualified foresters for work with wood-using industries. The wood-using industry that includes basic lumber products, finished lumber and veneer products, paper and allied products ranks fourth in the nation as to number of wage earners employed.

The first and second years of study are devoted to those basic preparatory subjects that are essential to the more technical courses that follow. The third and fourth years of study allow the student to obtain theory and practice in the more technical phases of his forestry education. Courses in business law and production management are included. These provide training in the fundamentals of business practice essential to the forester who contributes to the development of wood industries.

SECOND YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Agronomy 10—Forest Soils	4	Acounting 1—Principles of Accounting	3
Botany 67—Dendrology	3	Forestry 6—Convocation	0
C. E. 5—Plane Surveying	4	Botany 68—Dendrology	3
Economics 1 (Ag. Ec. 102) —Principles	3	Forestry 11—Silvics	3
English 13—Expository Writing	2	Forestry 21—Forest Mensuration	4
Forestry 5—Convocation	0	Forestry 133—Principles of Lumbering	3
Mil. or Air Science 3	2	Mil. or Air Science 4	2
	18		18

SUMMER CAMP

Forestry 101—Surveying Field Practice	3
Forestry 102—Mensuration Field Practice	4
Forestry 104—Forest Utilization Practices	3
	10

THIRD YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Bus. Ad. 111—Business Law	3	Bus. Ad. 112—Business Law	3
For. 112—Silvicultural Systems	3	Entomology 152—For. Entomology	3
For. 131—Wood Identification	3	For. 114—Forest Economics	3
For. 151—Forest Protection	2	For. 134—Forest Products	3
Physics 1—Introductory	4	Electives	4
Electives	3		
	18		16

FOURTH YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Forestry 123—Management	4	Forestry 135—Wood Seasoning & Preservation	4
Forestry 124—Forest Finance	3	Forestry 137—Grading Wood Products	3
For. 132—Properties of Wood	3	Forestry 138—Advanced Lumbering	3
Management 111—Industrial Management	3	Forestry 139—Marketing Forest Products	3
Plant Path. 153—Forest Pathology	4	Electives	3
	17		17

COURSES OF INSTRUCTION IN FORESTRY

1, 2. The Profession of Forestry. I and II. 1 hr. per semester. Survey of the profession of forestry and the opportunities available to trained men.
Mr. Percival and Staff

3. 4. 5. 6. Forestry Convocation. I and II. No credit. All students are expected to attend the weekly convocation. Attendance is required of students during their first four semesters in the Division of Forestry. Speakers and timely topics in forestry and allied fields are presented.

11. Silvics. II. 3 hr. PR or conc: Bot. 68. Forest and environment factors; site and type characteristics. Mr. Tryon

21. Forest Mensuration. II. 4 hr. PR: C. E. 5. Measurement of forest products, trees, and stands; timber estimating; introduction to growth and yield. Staff

46, 146. Ornithology. II. 2 hr. PR: Biol. 1 and 2 or consent of instructor. Identification, distribution, and ecology of birds (particularly of forest lands). Mr. Brooks

101. Surveying Field Practice. S. 3 hr. PR: C. E. 5. Application of surveying methods to forestry practice, employing the transit, precise level, staff compass, traverse board, and hand compass, with problems appropriate to each. Required of all students at summer camp. Staff

102. Mensuration Field Practice. S. 4 hr. PR: Botany 67 and Forestry 21. Problems in the estimation of timber volume, defect, and growth and yield, employing various systems in common use and varying the organization and equipment to meet the various situations encountered. Required of all students at summer camp. Mr. Koch and Staff

103. Forest Management Practices. S. 3 hr. PR: Forestry 102. Practice in marking timber for improvement and harvest cuttings, application of methods of treatment, and observation of the effects of past treatment on the residual stand. Required of all students at summer camp who are majoring in forest management. Mr. Carvell and Staff

104. Forest Utilization Practices. S. 3 hr. PR: Forestry 102. Study of woods operations, sawmills, pulp and paper plants, plywood plants and other wood-using industries. Required of all students at summer camp who are majoring in wood technology and wood industry. Mr. Koch and Staff

105. Land Utilization Practices. S. 3 hr. PR: Forestry 102. Field and laboratory exercises in farm and forest wildlife practices. Required of all students at summer camp who are majoring in wildlife management. Mr. Brooks and Staff

112. Silvicultural Systems. I. 3 hr. PR: Forestry 11. Principles of regeneration cuttings, intermediate cuttings and cultural operations, and their application to forest stands. Mr. Carvell

113. Seeding and Planting. II. 3 hr. PR or Conc: For. 11. Seeding and planting; nursery practice; phases of artificial regeneration. Mr. Tryon

114. Forest Economics. II. 3 hr. PR: Economics 1 or Agr. Economics 102. Economic and financial aspects of forestry, forest land, and forest industries and exploitation; present and potential forest resources of the U.S. Staff

116. Regional Silviculture. I. 2 hr. PR: Forestry 11; PR or conc: Forestry 112. Major forest types of the United States: their composition, management, problems and silvicultural treatment. Mr. Carvell

122. Forest Mensuration. II. 3 hr. PR: For. 21. The measurement of growth and yield; statistical methods applied to forest measurement problems. Staff

123. Forest Management. I. 4 hr. PR: Summer Camp and For. 112. The principles of sustained yield forest management. Organization of the forest area, selection of management objectives, application of silvicultural systems, and regulation of the cut. The forest management plan. Mr. Goodspeed

124. Forest Finance. I. 3 hr. PR: For. 114. Cost and income items in producing and exploiting forest crops; appraisal of stumpage and damages. Mr. Goodspeed

125. Forest Policy and Administration. II. 3 hr. (Upperclassmen only.) Forest policy in the United States; important federal and state laws; administration of public and private forests. Mr. Percival

126. Forest Measurement by Aerial Photographs. I. II. 2 hr. PR: For. 11 and 21. Elements of photogrammetry; preparation of maps, and interpretation of forest types and timber volumes from aerial photographs. Mr. Carvell

127. Forest Management Plans. II. 2 hr. PR: For. 123. Analyses of forest management plans. Construction of a sustained yield timber management plan for a specific forest tract. Mr. Goodspeed

131. Wood Identification. I. 3 hr. PR: Bot. 67 and 68. Identification of commercial timbers of U.S.; basic properties and uses of different woods. Mr. Koch

132. Properties of Wood. I. 3 hr. PR or conc: For. 131. Physical and mechanical properties of wood; testing, machining, gluing, finishing, and special processing of wood. Mr. Koch

133. Lumbering. II. 3 hr. PR or conc: For. 21. Logging practices and lumber manufacture. Logging and mill equipment. Important factors affecting lumber grades. Staff

134. Forest Products. II. 3 hr. PR or conc: For. 131. The production and uses of forest products other than lumber and timbers. Mr. Reid

135. Seasoning and Preservation. II. 4 hr PR. For. 131. Purposes, effects, and methods of seasoning and preserving wood. Mr. Reid

137. Grading Wood Products II. 3 hr. PR: For. 21 and 131. Inspection methods and application of standard grading rules to forest products, with emphasis on the inspection of hardwood and southern pine lumber. Staff

138. Advanced Lumbering. II. 3 hr. PR: For. 133. Organization of the business; operation of logging equipment, records and cost control. Mr. Koch

139. Marketing Forest Products. II. 3 hr. PR: For. 134. Methods of marketing lumber and other forest products in domestic and foreign trade. Mr. Reid

140. West Virginia's Natural Resources. II. 3 hr. (Primarily for students in the College of Education, but open to other Upper Division students). A survey of policies and practices in the development and use of soil, water, forest, wildlife, mineral and human resources in West Virginia. Mr. Brooks and Mr. Dugan

141. Wildlife Management. II. 3 hr. PR: Bot. 61 and Biol. 2. Basic principles of handling wildlife as a forest crop. (This course is not intended to train wildlife specialists.) In recognition of the importance of fish, game animals, and fur-bearing animals in the forest, the course considers the problems of the maintenance of an optimum wildlife population Mr. Dugan

142. Recreational Developments. II. 2 hr. PR: C. E. 6 and Summer Camp. Needs of the active and passive recreationist and means of supplying facilities for meeting these needs on public forests. Mr. Brooks

143. The Forest Range. II. 2 hr. PR: C. E. 5. A survey of basic range management technique and practices on forest lands, with consideration of range mapping and important forage plants. Mr. Brooks

144. Forest Zoology. II. 3 hr. PR: Biol 2 or Zool. 2. The relationships of mammals, reptiles, amphibians, and fish to the forest, with emphasis on the ecology and taxonomy of these groups. Mr. Brooks

145. Life Histories of Game Animals. II. 3 hr. PR: Biol. 2 or Zool. 2. Field and laboratory studies of game-bird and game-mammal life histories, with special reference to management of populations of these species. Mr. Dugan

151. Forest Protection. I. 2 hr. PR: C.E. 5. Preventive action, preparation activities, and control of forest fires. Mr. Percival

170, 171, 172, 173. Forestry Problems. I, II. 1 hr. ea. (Seniors only). (4 hr. maximum.) Mr. Carvell

183. Farm Woods Management. II. 3 hr. (Professional forestry students may not take this course for credit.) Characteristics of forest trees; methods of measuring and managing farm woodlands; plantation establishment. Mr. Tryon

Division of Home Economics

The Division of Home Economics is located in the north end of Oglebay Hall. Here may be found offices and a small departmental library, in addition to classrooms and laboratories equipped for the teaching of related arts, textiles and clothing, and foods and nutrition. Adjacent to the foods laboratories is a family-service unit consisting of a kitchen, dining room, and reception room. Additional laboratories near Oglebay Hall include University High School, two Home Management Houses, Nursery School, Cafeteria, and Textiles Laboratory.

Offerings in the division are designed to meet a wide variety of educational needs. One of the first aims is to help the student understand herself and her potentialities and to encourage her to assume progressively more and more responsibility. She will also be given school and community laboratory experience, under guidance, to help her develop judgment and confidence in meeting situations.

To assist the student in setting goals and in planning experiences which will help her make progress toward these goals, a special advisory system has been set up. Each student has a faculty adviser who counsels the student as to the courses and assists in solving problems directly or indirectly affecting her progress in the University.

PLAN OF WORK

Work of the first two years is largely cultural, including courses in written and spoken English, literature, and natural and social sciences. In addition, basic work in four areas—foods, clothing, art, and management—acquaints the student with the field of home economics. During the last two years the student is given the opportunity to specialize in one of several vocations. Special courses have been arranged for the student who wishes to stay in college only two years and whose main interest is to prepare for homemaking. She may substitute homemaking courses for those in the basic sciences during the first two years.

VOCATIONS FOR HOME ECONOMISTS

West Virginia graduates are now teaching homemaking at junior high school, senior high school, and college levels; others are supervising the teaching of homemaking. Some may be found serving as home-demonstration agents, girls' club leaders, or commercial demonstrators. A considerable number are engaged in institutional work as hospital dietitians or as managers of tea rooms, cafeterias, or college dining halls. Others are engaged in scientific research or in allied work as laboratory technicians.

Social service, through either private or government agencies, has claimed the interest of some. Nursery schools also have turned to West Virginia home-economics graduates for supervisors. Department stores have offered a variety of interesting jobs in selling, counseling, interior decoration, and other phases of retailing. One or two graduates with a flair for writing have found work on women's magazines. New fields are constantly opening up, so that the person trained in home economics has an ever-widening choice of vocations.

The division endeavors to keep in touch with agencies which employ home-economics graduates and to assist graduates in finding employment.

REQUIREMENTS FOR DEGREES

The Division of Home Economics offers courses leading to the granting of a B.S. and an A.B. Degree in Home Economics.

BACHELOR OF SCIENCE IN HOME ECONOMICS

The degree of Bachelor of Science in Home Economics will be conferred upon any student who satisfies the entrance requirements and offers 128 hours of college credit and the required grade points including the courses listed below.

General: Eng. rhetoric, literature, speech (no more than 3 hr. in latter), 12 hr.; chemistry, or physical science, 8 hr.; history, psychology, economics, and sociology, 9 hr. (with some work in at least two fields); biological science, 8 hr.; physical education, 4 hr. (Humanities 1 may be substituted for 4 hr. modern European history; Humanities 2 may be substituted for 4 hr. English literature.) Total, 41 hr.

Home Economics: foods and nutrition, 6 hr.; management, 5 hr.; textiles and clothing, 5 hr.; applied art, 4 hr.; child development, 2 hr.; electives in home economics, 18 hr. Total, 40 hr. General electives, 47 hr. Grand total, 128 hr.

Sufficient electives are allowed to permit the student to satisfy the requirements for a first-class high-school certificate to teach in West Virginia or to fulfill preparatory requirements for apprenticeship, internship, or similar vocational experiences in a variety of fields including those of institution management, hospital dietetics, food and textile research, retailing, extension work, and other government services.

It is suggested that students carry a maximum of 15 hours while in the Home Management House or while doing Student Teaching.

A student who is working for room and board may not carry more than 14 hours until she has demonstrated that she is able to maintain a "C" average.

A.B. DEGREE WITH MAJOR IN HOME ECONOMICS

Students who wish to offer home economics as a major in the College of Arts and Sciences are referred to the information concerning an A.B. Degree with a major in home economics.

CLASSIFICATION OF STUDENTS

To be classified as a conditional freshman a student must have credit for at least 15 units of entrance requirements; to be classified as a regular freshman she must fulfill all entrance requirements. To be classified as a junior, 58 hours; as a senior, 92 hours.

SUGGESTED CURRICULUM FOR FIRST TWO YEARS

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	English 3, 4,		Speech 3, 6,	
Chem. 1*	4	Chem. 2	4	or 5	3	or 11	3
(or)		(or)		(or)		Zool. 151	4
Phys. Sci. 1		Phys. Sci. 2		Humanities 2	4	Home Ec. 23	2
(or)		History 2	3	Home Ec. 15	4	Home Ec. 14	
History 1	3	(or)		Home Ec. 12	3	or 114	2
(or)		Humanities 2	4	Biology 1	4	Phys. educ.	1
Humanities 1	4	Home Ec. 2	2	Econ. or Sociol.	3	Econ. or Sociol.	3
Home Ec. 1	2	Home Ec. 3	2	Phys. Educ.	1		
Home Ec. 4	2	Phys. educ.	1				
Phys. educ.†	1						

*Prospective dietitians should elect Chemistry 1 and 2.

†Students must elect 4 courses—one from each group: Group Sports 9 or 10; Dancing 3, 17, or 18; Swimming 14, 15, 16; or Individual Sports 4, 6, 7, 8, or 13.

THE CURRICULUM FOR TEACHERS

Students who wish to obtain a high-school certificate to teach home economics must meet requirements of the State Board of Education and of the College of Education. Recommendation for certification is made by the Division of Home Economics to the Dean of the College of Education. For requirements, see the bulletin: *Teacher Selection, Guidance, Training and Certification.*

The head of the Division of Home Economics in the College of Agriculture, Forestry, and Home Economics is also a member of the College of Education and is the adviser for students wishing to meet requirements for a high-school certificate to teach home economics.

West Virginia University has been approved by the State Department of Education and the U.S. Office of Education to train teachers of vocational homemaking.

All students who meet requirements for vocational certificates in home economics as set forth in the bulletin, *Teacher Selection, Guidance, Training and Certification,* and who maintain an average of "C" or better in Education 163 and 124 will be recommended for vocational certificates.

Students transferring from other institutions should do so not later than the junior year. A minimum residence of the entire senior year is required, and students with irregular schedules will require a longer time.

MAJOR CURRICULA IN HOME ECONOMICS

The Teaching Major

(*See Teacher Training Bulletin for course requirements*)

Other Majors

Advisers will help students select courses which will prepare them for vocations in Nutrition and Dietetics, Textiles, Clothing and Retailing, Extension Service, Utility Companies or for pursuing work at graduate level.

TWO-YEAR COURSE IN HOME ECONOMICS

The Division of Home Economics offers a two-year course designed to meet the needs of those students who do not wish to spend four years working toward a degree but who desire some college training. The two-year curriculum is designed to give students some information, appreciations and understandings to help them function successfully as homemakers and citizens. The course as planned is broad and flexible and permits a wide choice of electives to meet individual needs.

The entrance requirements for the two year course are the same as for the regular four year course, as given in the University catalog. Students who complete, satisfactorily, the 64 semester hours, including the basic requirements and at least 22 hours in Home Economics will be granted a certificate in Home Economics.

A student enrolled in the two-year course may transfer appropriate credit hours to a four-year course leading to a degree provided a grade point average of 2.5 or better has been maintained. A student pursuing the four-year curriculum may transfer to the two-year curriculum provided the transfer is made prior to or immediately following completion of two years of study. In either case the student must meet the requirements of the curriculum to which transfer is made.

The Two-Year Curriculum

English 1 and 2	6 hours
or	
Communications 1 and 2	
Social Science*, or Physical Science, or Biological Science	8
Social Science	6
Chosen from the following	
Political Science	
Economics	
Sociology	
History	
Psychology	
Home Economics	22
At least one course from each of the following areas:	
Related Art (3 and 23 suggested)	
Clothing and Textiles (2 or 12 and 17 or 102)	
Child Development	
Foods and Nutrition (1 and 105 or 15)	
Management (to include 114)	
Physical Education or Health Education	2
Electives from any field for which student can qualify	20
	64

*General Course in Social Science.

MASTER'S DEGREE IN HOME ECONOMICS EDUCATION

The Division of Home Economics offers work at the graduate level leading to the degree of Master of Science in Home Economics Education. The summer program is planned to give special attention to needs of graduate students who wish to work towards this degree.

Some courses are offered on a six-weeks basis to meet the needs of those who can spend several weeks on campus. For those who cannot stay for a full session or who prefer to work intensively on one subject at a time, the Division offers workshops of two or three weeks duration. These are arranged consecutively so that a student may elect work in one or several workshops.

It has been possible to obtain the services of outstanding educators to serve as consultants for these workshops. Those interested in the summer program may obtain copies of the Summer Session bulletin or other information by writing to the head of the Division of Home Economics.

(For more detailed information consult the Graduate School Bulletin.).

COURSES OF INSTRUCTION IN HOME ECONOMICS

Professor Noer and Staff.

(1) Students in the College of Arts and Sciences who major in home economics must meet the requirements in that college and also the departmental requirements as outlined in this *Catalog*.

(2) Students who wish to obtain the high-school certificate to teach home economics must meet the requirements of the State Board of Education, the College of Education, and the Division of Home Economics. The B.S.H.E. degree in the College of Agriculture, Forestry, and Home Economics is planned to allow sufficient electives to meet these requirements.

(3) Students from other colleges who wish to elect home economics courses without meeting the Science requirements may take Home Economics 1, 2, 3, 4, 23, 15, 114, 102, 32 or 132, 13 or 113, 123, 133, 106, and 206; others by consent of instructor.

(4) Graduate students are limited to 6 hr. of "Problems" courses.

FOODS AND NUTRITION

Instructor Jones and Staff.

1. Sec. 1. Elementary Nutrition. I, II. 2 hr. Essentials of adequate diet; application with particular reference to needs of college students. Staff

1. Sec. 2. Elementary Nutrition. I. 2 hr. Advanced section of H.E. 1 for those who qualify on basis of placement test. Staff

21. Nutrition and Foods for Nurses. I. 3 hr. Fundamental principles of human nutrition and of food preparation. Content of course is that given in "Teaching Dietetics to Student Nurses," by American Dietetic Association. Staff

101. Nutrition I. 3 hr. PR: Chem. 2 or Phys. Sci. 2, with consent, H.E. 15 or consent. Two lectures and 1 laboratory. Food needs as affected by such factors as age, sex, and activity; nutritive value of common foods; planning of adequate diets at different cost levels. Staff

111. Requirements for Normal Human Nutrition. I, II. 3 hr. Lecture and demonstration. Two 2-hour and one 1-hour classes per week. For students in other colleges. Staff

121. Nutrition Work with Children. II. 2 hr. PR: H.E. 101, or consent, 106 or 106 parallel, 115. Problems involved in feeding children optimum diets. Opportunity for students (1) to prepare noon meals for University Nursery School children; (2) to observe a number of school-lunch programs in and near Morgantown. Staff

181. Problems in Nutrition. I, II. 1-4 hr. PR: Consent. Staff

201. Diet in Disease. I. 2 hr. PR: H.E. 101, Zoology 151, Chem. 131. Adaptations of normal diet for diseases whose prevention or treatment is largely influenced by diet. Offered in 1956-57 and alternate years. Staff

211. Readings in Nutrition. II. 2 hr. PR: H.E. 101. Reviews of current literature and of present research. Topics depend upon needs and interests of class members. Offered in 1957-58 and alternate years. Staff

221. Community Nutrition Problems. I. 2 hr. PR: H.E. 101 or consent. (2 hr. lect., field work). Includes consideration of organizations and agencies through which these problems may be solved. Offered 1956-57 and alternate years. Staff

281. Problems in Nutrition. I, II. 1-4 hr. PR: Consent. Staff

15. Food Selection and Preparation. I, II. 4 hr. PR: H.E. 1, Chem. 2 or Phys. Sci. 2, or consent. (2 lect., 2 lab.). Chemical and physical basis for food preparation with enough experimental work to give an understanding of reasons for recommended procedures in preparation of food products of high quality. Mrs. Jones

105. Planning and Serving Family Meals. 2 hr. PR: None. A practical course in food preparation. Special attention will be given to simple workable types of table service. Much of course will be governed by individual needs and interests of students. (Not open for Home Economics students). Mrs. Jones

115. Meal Planning, Preparation, and Service. I, II. 3 hr. PR: H.E. 15 or consent. (1 lect., 1 3-hr. lab.) Problems in selection and purchase of foods, planning, preparing, and serving of meals, including wise use of time and energy. Mrs. Jones

125. Foods for Special Occasions. II. 2 hr. PR: H.E. 15 or consent. Preparation of special foods for parties, dinners, teas, and other social functions, with laboratory experience in organization and management of food service for such occasions. Offered in 1956-57 and alternate years. Staff

185. Problems in Foods. I, II. 1-4 hr. PR: Consent. Staff

205. Experimental Cookery. II. 3 hr. PR: H.E. 15, Chem. 131. (1 hr. lecture, 1 2-hr. lab., 1 3-hr. lab.) Utensils, ingredients, temperature, manipulation, and cooking methods as they affect quality of cooked products. Offered in 1957-58 and alternate years. Mrs. Jones

215. Food Preservation. I. 3 hr. PR: H.E. 15 or equivalent, and (or parallel), Bact. 141. (1 lect., 2 3-hr. labs.) Fundamental principles involved in preservation of foods by canning, drying, fermentation, curing, and freezing as applied in the home and in centers equipped for quantity work. Offered in 1957-58 and alternate years. Mrs. Jones

285. Problems in Foods. I, II. 1-4 hr. PR: Consent. Staff

INSTITUTION MANAGEMENT

Professor Noer; Assistant Professor Dietrich and Instructor Rennebohm.

108. Quantity Cookery. I. 3 hr. PR: H.E. 15, 101. One lecture, two 3-hour laboratories arranged. Application of principles to preparation of food in large quantity. Use of standardized formulas, calculation of costs, and use of institution equipment. Cafeteria used as laboratory. Miss Price

118. Institution Accounting. 2 hr. PR: H.E. 108. Current procedures in accounting for institutions. Preparation of budgets, food-control records, financial statements, and reports. Offered in alternate years, 1957-59-61. Miss Price

128. Institution Buying. 2 hr. PR: H.E. 108. Producing areas, distribution of food products, specifications, storage, and food practices in quantity buying. Obser-

vation in local wholesale markets, warehouses, and storage units. Offered in alternate years, 1956-58-60. Miss Price

138. Institution Organization and Management. 3 hr. PR: H.E. 108. Principles of organization and management of institutions of various types. Offered in 1957-58 and alternate years. Miss Price

148. Laboratory Practice in Institution Management. I, II. 2 hr. PR: H.E. 108, 138, and consent. (Arranged). Experience under supervision in planning, preparing, and serving food in an institution. Selection of place and type of experience to be determined by needs of students. Miss Price

188. Problems in Institution Management. I, II. 1-4 hr. PR: Consent. Staff

288. Problems in Institution Management. I, II. 1-4 hr. PR: Consent. Staff

TEXTILES AND CLOTHING

Professor Noer; Assistant Professor Dietrich and Instructor Rennebohm.

2. Elementary Clothing. I, II. 2 hr. Problems in selection and construction of clothing. For freshmen and others who do not pass placement test. Miss Rennebohm

12. Intermediate Clothing. I, II. 3 hr. PR: H.E. 2 or exemption of H.E. 2 by placement test. Particular emphasis on high standards of workmanship and evaluation of work and progress. As students develop skill they will be expected to work with increasing independence. Miss Rennebohm

102. Clothing Selection. I, II. 2 hr. PR: H.E. 3, H.E. 2, or consent. Two lectures. Selection of clothing for whole family from viewpoint of design, color, and economy. Clothing inventories and buying plans. Miss Rennebohm

132. Clothing Techniques. II. 2 hr. Not open to home economics majors. Techniques for simple garment construction, remodeling, alteration, and repair. Problems adapted to needs of individual students. Especially planned for Arts & Sciences students and young homemakers. Miss Rennebohm

182. Problems in Clothing Construction. I, II. 1-4 hr. PR: Consent. Staff

212. Advanced Clothing Construction. II. 2 hr. PR: H.E. 17, 233. Problems of fitting, draping, and pattern adaptation, using the dress form. Speed methods emphasized. Miss Rennebohm

222. Tailoring. II. 3 hr. PR. H.E. 12, 17. Problems in teaching tailoring, including sources of help and new techniques. Emphasis on methods of helping students evaluate their own progress. Opportunity for laboratory experience in cutting, fitting, construction, and pressing of tailored garments Miss Rennebohm

282. Problems in Clothing. I, II. 1-4 hr. Consent. Staff

17. Textiles. I, II. 3 hr. Lecture and laboratory combined. Textile fibers and fabrics studied with view to their use in dress and in the home. Characteristics of the major fibers and their suitability to various uses. Study of standard and novelty materials with emphasis on appropriate use and care. Miss Dietrich

117. Textile Buying. II. 2 hr. PR: H.E. 17. Lecture and laboratory combined. Buying of textiles for all types of clothing and for household. At least one field trip required. Offered in 1956-57 and alternate years. Miss Dietrich

187. Problems in Textiles. I, II. 1-4 hr. Staff

217. Readings in Textiles. I. 2 hr. PR: H.E. 17. Review and discussion of current literature reporting recent research in field. Offered in 1957-58 and alternate years. Miss Dietrich

287. Problems in Textiles. I, II. 1-4 hr. Consent. Staff

APPLIED ART

Assistant Professor MUFFLY and Instructor RENNEBOHM.

3. ART APPLIED TO PERSONAL PROBLEMS. I, II. 2 hr. Principles of design and color applied so as to help college students meet problems of daily living. Problems may include room arrangement, clothing, design, etc. Mrs. Muffly

24. PRESENT-DAY HOUSING. I, II. 2 hr. PR: H.E. 3 or consent. Factors to be considered in selecting a home and furnishings for families of different income levels. Special attention to low cost housing. Laboratory practice in improving rooms, apartments, and houses, using materials commonly found in rural communities and small towns. Mrs. Muffly

113. HOUSE DECORATION. II. 3 hr. For nonmajors. Two lectures and one laboratory. Materials and furnishings that go into decoration and furnishing a home, with emphasis on cost, buying, and reconditioning. Mrs. Muffly

123. HOME PLANNING AND FURNISHING. I, II. 4 hr. PR: H.E. 23. Two lectures and 2 laboratories. Fundamentals of wise planning to meet family needs; understanding of house structure and home needs. Discussions on home decorating based on various income levels and suitability to various communities and families. Mrs. Muffly

133. HOME CRAFTS. II. 2 hr. Two laboratories. Experience in simple crafts, using such materials as leather, plastic, metal, paper, thread, and fabric for creation of useful and beautiful objects. Equipment and materials used are those readily available in home, school, and camp situations. Mrs. Muffly

183. PROBLEMS IN RELATED ART. I, II. 1-4 hr. Consent. Staff

233. COSTUME DESIGN. I. 2 hr. PR: H.E. 3, 12, 117. Techniques of figure and fashion drawing. Problems in designing costumes and ensembles for individuals of various types and ages. Miss Rennebohm

HEALTH AND CHILD CARE

Professor BROWN and Staff

106. CHILD DEVELOPMENT. I, II. 3 hr. PR: Psych. 1 or 3, or Ed. 105 or 106. (2 lect.) Child from prenatal period to pre-adloescence. University Nursery School used for observing pre-school children. 4 hr. per week of observation and participation. Mrs. Ayersman

116. HOME NURSING.. II. 2 hr. (1 lect., 1 2-hr. lab.) Practices to promote family health and care of minor illnesses. Offered in 1956-57 and alternate years. Staff

186. PROBLEMS IN CHILD DEVELOPMENT. I, II. 1-4 hr. PR: Consent. Staff

206. OBSERVATION AND PARTICIPATION IN NURSERY SCHOOL. II. 1-3 hr. PR: H.E. 106. Directed experience in working with children in a nursery-school situation. Laboratory and conference. Offered in 1956-57 and alternate years. Miss Brown

266. NEEDS OF ADOLESCENTS. I. 3 hr. A study of adolescent needs as met by the home with contributions of other agencies such as church, school, and youth groups. Physical, social, and integrative needs will be considered from the standpoint of needs of all family members as well as the individual. Miss Brown

286. PROBLEMS IN CHILD DEVELOPMENT. I, II. 1-4 hr. PR: Consent. Staff

HOME MANAGEMENT

Associate Professor MOSS; Instructor WHITESIDES.

4. ELEMENTARY MANAGEMENT. I, II. 2 hr. Simple problems in management of time, energy, and other resources. Practical application to problems of individual members of class. Mr. Moss

104. Nutrition and Home Management. II. 3 hr. Planned to meet needs of social-work majors. Not open to students majoring in home economics. Offered in 1957-58 and alternate years. Mr. Moss

114. Management of Family Living.. II. 2 hr. PR: H.E. 4 or consent. Influence of home conditions on families and family members. In considering ways of meeting every day problems of families, an attempt will be made to apply findings of science and techniques of management in such way as to help families achieve satisfaction in living. Mr. Moss

124. Demonstration Techniques. I, II. 2 hr. PR: Minimum of 4 hours in each of 4 areas of home economics, and consent. Lecture demonstration as means of presenting home economics materials to groups. Development and presentation of demonstrations suitable for secondary schools and use with adult groups. Staff

184. Problems in Home Management. I, II. 1-4 hr. PR: Consent. Staff

214. Family Economics. I. 2 hr. PR: 30 hours of H.Ec. Managing the family food, clothing, shelter, and health dollar. Budgeting the family income. Providing for the future. Credit in family economics. Consumer protection. Miss Whitesides

224. Principles of Home Management. I, II. 2 hr. Time and energy management, house care, pest control, buying and storing foods, use and care of home equipment, entertaining, money management, simple record keeping, and infant care. Junior standing preceding or parallel with H.E. 234. Miss Whitesides

234. Home-management Laboratory. I, II. 3 hr. PR: H.E. 115, 114. Arranged. Emphasis on satisfying family life and social relationships. Approximately 5 weeks of home residence, and 1 hour of discussion each week throughout semester. H.E. 224 should be taken prior to or parallel. Staff

254. Household Equipment. II. 2 hr. PR: Senior standing. Selection, arrangement, use, and care of equipment for various situations and for different income levels. Laboratory and discussion. Miss Whitesides

284. Problems in Home Management. I, II. 1-4 hr. PR: Consent. Staff

HOME ECONOMICS EDUCATION

Professors Noer and Brown.

Ed. 163. Materials and Methods in Home Economics. I, II. 2 hr. Staff

Ed. 262. Vocational Home Economics in Secondary Schools. I, II. 2 hr. PR: 7 hours of Education and 30 hours in home economics. Miss Noer

209. Evaluation in Home Economics. 3 hr. PR: 30 hours of home economics, 7 hours of Education. Experience in selecting, devising, and using evaluation devices for appraising student progress toward desired goals in home economics education. Miss Brown

219. Adult Education in Homemaking. I. 3 hr. PR: 30 hours of home economics and 7 hours of Education. Current trends and present activities. Organization of adult classes; development of unit outlines; consideration of teaching methods; illustrative material and bibliography. Staff

229. Materials for Teaching Home Economics. II. 2 hr. PR: 30 hours of home economics and 7 hours of education. Offered in alternate years 1956-58-60. Staff

249. History of Home Economics. 1 hr. One lecture. Miss Noer

309. Research Methods. I, II, S. 2 hr. Adaptation of research techniques to problems in home economics. For students writing problems or thesis. Miss Brown

319. Home Economics Curriculum. 3 hr. PR: Experience in teaching home economics and consent. Selection and organization of learning experiences in home economics. Practices and techniques currently used for curriculum planning and reconstruction. Miss Brown

329. Supervision in Home Economics. 2 hr. PR: Teaching experience and consent. Designed for home economics teachers preparing to serve as supervising teachers in "off-campus" training centers. Function of supervision and organization of supervised teaching program. Techniques for helping students in training for teaching homemaking. Miss Brown

360. Problem Report for the Degree of Master of Home Economics. I, II, S. 1-3 hr. Staff

389. Problems in Home Economics Education. I, II. 1-4 hr. PR: Consent. Staff

The College of Arts and Sciences

GENERAL INFORMATION

Organization and Purpose

The College of Arts and Sciences includes a lower division and an upper division. The lower division consists of work of the first and second years, and the upper division consists of work of the third and fourth years.

Instruction in the College of Arts and Sciences is administered through the following departments:

Art; biology; chemistry; classics; economics; English language and literature; gology, mineralogy, and geography; Germanic languages and literatures; history; home economics; library science; mathematics; nursing education; philosophy and psychology; physics; political science; Romance languages and literatures; sociology; social work; speech; and the Interdepartmental Program of Integrated Studies; humanities, social science, biological sciences, physical sciences, and communication.

Main Objectives

The curriculum of the College of Arts and Sciences has certain main objectives.

1. *General Culture.* Work of the lower division is intended to complete what is usually termed "a general education." It rounds out the program of studies pursued in high school and promotes full development of the student (1) as an individual and (2) as a member of society. Ideally, the student should undergo a well proportioned development intellectually, spiritually, physically, and emotionally. The end of such development should be an inner balance or stability on the basis of which further growth can take place. Development of the individual as a member of society is to be measured in terms of his or her usefulness and sense of responsibility to the social order. The student should develop the capacity of intellectual participation as a citizen in the community, state, country, and world. A general education should, therefore, provide for all students a meaningful experience appropriate to the individual and social needs which all citizens have in common as members of a free society in the contemporary world.

2. *Specific Attributes.* Most of the attributes of a general education can be placed in one of three categories: (1) attitudes, (2) areas of knowledge, and (3) skills.

The following attitudes should be attained as the result of a general education:

(1) An attitude of tolerance or open-mindedness, characterized by a cosmopolitan outlook that will enable the student to see beyond the limits of his own profession, his own economic status, and his own country;

(2) An attitude of truth-seeking characterized by scientific objectivity and motivated by intellectual curiosity;

(3) An attitude of intelligent appreciation towards nature and the arts that will, as far as the student's endowments will permit, help him in his aesthetic and ethical choices;

(4) An attitude of dispassionate self-appraisal, based on an understanding of his own nature and characterized by an awareness of his own mental strength and weakness.

The areas of knowledge which should be the common possession of educated persons may be conveniently grouped in two divisions:

(1) A knowledge of man as a social and intellectual being, of his place in contemporary civilization, and of that civilization's place in the history of man;

(2) A knowledge of man as an organism and of man in his relation, direct or indirect, to the biological and physical environment in which he lives.

Three basic skills are regarded as indispensable to all educated persons:

(1) That of self-expression or communication, involving writing, speaking, reading, and listening;
(2) That of calculation, that is, a knowledge of, and some skills in, basic mathematics.
(3) A familiarity with at least one foreign language, not only as a useful skill, but also as a means of promoting tolerance and sympathetic understanding of peoples who do not speak our language.

Courses Recommended

Two types of courses are recommended to all students in the lower division as common means for fostering the attributes of mind and character which a general education should develop in the student:

(1) Courses for the promotion of basic skills: (a) calculation and (b) communication;
(2) General introductory courses for the elementary but organically integrated study of four fields of human knowledge: (a) Biological Science, (b) Social Science, (c) Physical Science, and (d) Humanities.

Opportunity for Specialization

Work of the upper division is intended to provide intensive study in one of two fields of knowledge. It is based on the belief that an educated man or woman should not only know the fundamentals of several branches of study but should have a rather thorough knowledge of some selected field. In the upper division therefore, the student concentrates on a major and one or two minors. The curriculum is sufficiently flexible, however, to meet the needs and tastes of individual students without at the same time exposing the student to disadvantages of a free elective system.

Special Provisions for the Junior Certificate

Experience has shown that students whose average in high-school subjects was below 75 per cent, or students who ranked in the lowest one-fourth of the high-school graduating class, probably will not succeed in the regular college curriculum. Nevertheless, such students may, by wise selection of studies, profitably spend one or two years in college. Other students for financial or other reasons may not be able to attend college for more than one or two years. It is believed that students in either group may spend their time more profitably taking courses in which they are particularly interested from a cultural or vocational point of view than by following the curriculum leading to the A.B. Degree. Students who are not candidates for the A.B. Degree but who earn 64 hours of college credit and 128 grade points, including general University requirements, in residence in this college will be awarded the Junior Certificate of the College of Arts and Sciences.

The Major Subject

In the upper division the student concentrates on a major and one or two minor subjects (in departments other than the major department) selected from the following list of subjects:

Art	Geology	Physics
Biology	German	Political Science
Botany	History	Psychology
Chemistry	Home Economics	Social Work
Classics	Library Science	Sociology
Economics	Mathematics	Spanish
English	Nursing Education	Speech
French	Philosophy	Zoology

Classification of Students

To be classified as a freshman in the College of Arts and Sciences a student must have credit for at least 15 units of entrance requirements; to be classified as

a sophomore he must have fulfilled all entrance requirements and have credit for 25 hours of college work; as a junior, 58 hours; as a senior, 92 hours.

Advisers

Lower Division. Each student in the lower division is assigned to an adviser who will assist in registration and who will have general supervision over the work of the student. Electives are chosen and changes in the program are made with approval of the adviser. Students are urged to confer with advisers in respect to any difficulties or maladjustments in college life.

Upper Division. For transfer to the upper division a student must have completed a minimum of 58 hours and have maintained a grade-point average of 2.0 on all work for which he received grades (except "W" and "WP").

Each student in the upper division is assigned to an adviser of the department to which the major subject belongs. The program of study and all changes in class assignments must be approved by the adviser.

Student Class Schedules

Each student will schedule his courses acording to the curriculum he has chosen. If he is required to repeat courses in which he has previously received a grade of "D" because of a deficiency of grade points (see below), such courses will be scheduled before any others. A second year student who has not completed all required courses listed in the first year of the curriculum that he is following will be required to schedule such courses before scheduling new courses. A student will not be registered for an upper-division course not provided in his lower-division curriculum unless he has satisfied all lower-division requirements or has scheduled the courses necessary to meet those requirements.

Minimum Scholastic Standards

Normal progress toward upper division status and graduation requires maintenance of a grade-point average of 2.0.

A student who lacks 16 or more grade points of having a total grade-point average of 2.0 at the end of any semester will be required to repeat courses in which grades of "D" were received to the extent of at least one-half of the semester hours for which he is registered if it is possible to schedule such courses.

A lower division student who, after earning 58 semester hours, is ineligible to enter the upper division because his total grade-point average is less than 2.0, will be required to repeat courses in which grades of "D" were received until an average of 2.0 or higher is attained. The number of hours to be repeated shall at least equal the grade-point deficiency or a maximum of 15 hours if it is possible to schedule such courses.

Courses given in other Colleges or Schools of the University need be repeated under the operation of these rules only when such courses are required for the student's major.

Probation and Suspension

Any student whose mid-semester grades are below passing in courses amounting to more than half of the total number of semester hours for which he is registered shall be placed on probation for the remainder of the semester. The terms of probation are determined by the scholarship committee.

Any student whose grades at the end of any registration period are below passing in courses amounting to more than half the total number of semester hours for which he is registered shall be suspended from the University. A freshman subject to the operation of this rule at the end of his first registration period in residence shall be placed on probation for the succeeding registration period.

A student who lacks 16 or more grade points of having a total grade-point average of 2.0 at the end of any semester or a lower division student who, after earning 58 semester hours, is ineligible to enter the upper division because his total grade-point average is less than 2.0 must attain a total grade-point average of 2.0 or higher within three semesters in residence or be suspended.

All actions of the Committee on Scholarship and the Dean that effect the standing of a student shall be reported by the Dean to the Registrar.

Attendance

1. Students shall attend all classes, including laboratory sessions, for which they have enrolled, unless prevented from doing so by illness, injury, authorized University activities, or other reasons approved by the Dean.
2. A student enrolled in a course numbered under 100 shall be reported by the instructor to his adviser and his dean or director on an appropriate form as soon as his absences exceed the number of class meetings in a normal week.
3. A student whose absences in a course numbered under 100 exceed the number of class meetings in three normal weeks:
   (a) shall again be reported to his adviser and his dean or director, and
   (b) may be barred from the final examination in the course by the instructor, except that the student is permitted to appeal the instructor's decision to the Dean of the College of Arts and Sciences, whose ruling shall be final.
4. Any student in an upper division course shall be reported to his adviser and his dean as soon as his absences jeopardize his class standing.
5. The instructor may bar a student in an upper-division course from the final examination for excessive absences if:
   (a) the student has been reported to his adviser and his dean for excessive absences, and
   (b) After being reported for excessive absences, his subsequent absences exceed the number of class meetings in a normal week, and
   (c) The total number of absences exceeds the number of class periods in the course during three full weeks.
   The student may appeal the instructor's decision to the Dean of the College of Arts and Sciences, whose ruling shall be final.
6. Attendance rules shall apply equally, and separately, to lectures, quiz sections, discussion groups, and laboratory sessions.
7. A student who must be absent from class for an extended period of time shall inform his adviser or his dean.

Duties of Advisers

All advisers, upon receipt of reports of excessive absences shall have conferences with the students concerned and shall make such recommendations and adjustments as are desirable and feasible. If the adviser does not find a satisfactory solution after a conference with the student, he shall report the case to the Dean.

Standing Committees

Curriculum Committee on General Education: Messrs. Manning (chairman), Bennett, Crocker, Easton, Kerr, Lazzell, Patton and Vest.
Executive: Messrs. Ashburn (1957), Davis, H. A., (1958), and Summers, (1956).
Instructional Policies and Practices: Messrs. Gibbard (chairman), Barns, Brawner, Gribble, Peters, Thomas and Williams.
Scholarship: Messrs. O. H. Cross *(chairman)*, Baer, Buchanan, Cunningham, Greene, G. A. Hall and McBride.

REQUIREMENTS FOR DEGREES

CREDIT DEFINED

The "semester-hour" is the standard for computing the amount of work required for graduation in the curricula leading to these degrees. The "hour'" represents the amount of work done in one semester (approximately 18 weeks) in one recitation hour with two preparation hours a week.

GENERAL REQUIREMENTS FOR ALL DEGREES

Foreign Language. Fewer than 6 hours in an ancient or modern language will not be counted towards any degree, diploma, or certificate in this College unless work in the same language has been offered for entrance.

English. Each undergraduate who begins his college work after June 1, 1952, must pass a proficiency examination in English after the beginning of his junior year in order to qualify for graduation. He shall take the examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as necessary.

Electives. At least 6 hours must be taken in each subject offered as a free elective, but no more than 9 hours in isolated courses of less than 6 hours each, selected with the approval of the adviser, may be offered.

In addition to regular elective work in the College of Arts and Sciences which is offered by the faculties in other colleges, work not to exceed 15 hours in the College of Law, College of Agriculture,[1] College of Commerce, College of Engineering and School of Mines,[2] School of Music,[3] School of Physical Education and Athletics,[4] School of Journalism, or 6 hours of upper-division work in Military or Air Science and Tactics, or 20 hours in the College of Education, may be included in the list of elective credits offered by students in the College of Arts and Sciences. The total number of hours elected from other colleges shall not, however, exceed 24 hours in all.

The course in general biochemistry (Biochemistry 239) is available (without additional fees) in the School of Medicine.

Major Subject. At least 88 hours of the total offered for graduation with an A.B. degree must be exclusive of the work done in the major department, which is normally not more than 40 hours.

ASSOCIATE IN ARTS DEGREE

The degree of Associate in Arts is conferred on the student who completes Option B of the regular course. The core of this program is in four introductory general courses: Humanities, Social Science, Biological Sciences, and Physical Sciences.

Students enrolled in the program will normally complete it in the first two years by taking any three of the general courses. Students who carry a reduced load or who wish to meet specific departmental requirements with other introductory courses may extend completion of the program beyond the two-year period with no reduction in grade points.

Students who complete satisfactorily three area courses, as well as the regular requirements in a foreign language. English composition, physical education general program, and military (men), will be considered to have met not only the general requirements of the University but also general (i.e., nondepartmental) requirements of the College of Arts and Sciences. Students who meet these requirements and have 64 hours of college credit and a grade-point average of 2.0 on all work in residence in the College of Arts and Sciences will be entitled to the two-year degree of Associate in Arts.

BACHELOR OF ARTS DEGREE

The Bachelor of Arts Degree in the College of Arts and Sciences is conferred upon any student who complies with the general regulations of the University concerning degrees, satisfies all entrance, college, and departmental requirements, and completes any one of the following courses of study:

I. Regular course (128 hours)
II. Premedical and Predental courses (128 hours)
III. Combined courses:

[1]In addition to the 15 hours, the following courses in agriculture are regular electives in the College of Arts and Sciences: Ag. Economics 131 and all courses in entomology, genetics, and plant pathology.

[2]The engineering and mining electives include Chemical Engineering 186, 200, 205, 207, 234, 235, 238, 250, 251; Civil Engineering 1, 2, 5, 6, and 115; Electrical Engineering 100, 105; Mechanical Engineering 20, 26, 29, and 121; Mechanics 101, 102, and 104; and Mining Engineering 106, 109, 204, and 208. In addition the student may elect with the consent of his adviser, when his major is Physics, Ch.E. 160.

[3]The music electives include Theory of Music 1, 2, 3, 4, 77, 78, 109, 110, 113, 114, 117, 118, 183, 240, 241, 280, and 281; Ensemble 153, 154, 155, and 156; classes in orchestra instruments 191, 192, 193, 194, 195, and 196. Men's Glee Club, Women's Glee Club and University and Community Orchestra; and piano or voice or violin or pipe organ or band and orchestra instruments.

[4]The electives in physical education are P.E. 77, 151, 67, 278, and Safety Education 181 and 281.

(a) Arts and Law (123 hours)
(b) Arts and Medicine or Dentistry (128 hours)

Students transferring to West Virginia University from other institutions should ordinarily do so not later than the beginning of the third year. Such students must meet all the requirements of the lower division. All deficiencies must be met as soon as possible after admission to this College, whereupon such student may register regularly in the upper division.

Maximum and Minimum Work. The maximum number of hours per semester for which a student may register is 18; the minimum 14. A student in the upper division may, however, with the approval of his adviser, register for a maximum of 20 hours per semester without petitioning the Committee on Scholarship.

I. Regular Course (128 Hours)

LOWER-DIVISION CURRICULUM

Option A:

(a) *General University Requirements.*
Military or Air Science[5]—8 hours.
Physical education (men)[6]—2 hours.
Physical education (women)[6]—4 hours.

(b) *Science.* At least 8 hours of a laboratory science chosen from the following list: biology, botany, chemistry, geology, physical science, physics, psychology, and zoology.

(c) *Foreign Language.* To be eligible for graduation a student must have completed twelve semester hours in a foreign language in college or two units for entrance and six hours beyond courses 1 and 2 in the same language in college.

(d) *English Composition.* Ordinarily 6 hours of English composition (English 1 and 2) will be required of all freshmen. In case a freshman is not qualified to meet the requirements in English 1, as shown by placement or other tests, he (or she) will be assigned to English O, which carries 3 hours of University credit. Upon the successful completion of the work in English O the student will register for the regular work in English 1 and 2.

(e) *Distribution Requirements.* A selection of one subject from each of the following groups to total 24 hours is required. At least 12 hours shall be from lower division courses.
(1) At least 6 hours of History or of Humanities (general course).
(2) At least 6 hours of Economics, of Political Science or of Social Science (general course).
(3) At least 6 hours of one field of Literature (English, American or Foreign) or of Mathematics.
(4) At least three hours of Art, of Home Economics, of Library Science, or of Speech.
(5) At least 3 hours of Geography, of Philosophy, of Sociology, or of a laboratory science not chosen in ("b") above.

(f) *Electives,* under the supervision of the adviser, to make a total of 64 hours. Ordinarily freshmen should register for required courses. Electives should be used in the second year chiefly in meeting the preliminary requirements of the departments in which students expect to do work of the major (or minors) in the upper division.

[5]Military or air science is required of all male students except those who at the time of matriculation are 23 years of age or have completed no less than 58 hours of work, and all who have credit for 8 hours of military or air science or 1 unit of entrance credit in military academy. Students must register for military science upon their entrance into the University and continue in the course until the full requirement has been met or until a regular exemption card is filed in the Registrar's office.

[6]Two hours of physical education general program for men, to be taken during the first year of residence, and four hours of physical education general program for women, to be taken during the first and second years in residence, are required for graduation of students presenting fewer than 58 semester hours, unless previous credit has been allowed.

Option B: General Course Program of Integrated Studies (64 *Hours*)

A sample schedule of courses for students enrolled in the whole program of Integrated Studies and planning to complete it in two years follows.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Humanities 1	4	Humanities 2	4
Biological or Physical Sciences 1	4	Biological or Physical Sciences 2	4
English 1	3	English 2	2
Foreign Language	3	Foreign Language	3
Physical education	1	Physical education	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Electives	1-3	Electives	1-3
Maximum hours allowed	18		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Social Science 1	4	Social Science 2	4
Physical education (women)	1	Physical education (women)	1
Mil. or Air Sci 3	2	Mil. or Air Sci. 4	2
Electives[7]	11-13	Electives[7]	11-13
Maximum hours allowed	18		18

UPPER-DIVISION CURRICULUM

1. *A major sequence* of 18 to 24 hours of upper division courses, preceded by the proper lower-division courses prescribed as preparation for the major. This work should represent a coherent and progressive sequence of courses as outlined in the departmental anouncements. This major subject will be selected when the student registers in the upper-division, but the student must plan the work in the lower division in such a way as will meet the departmental requirements for the major and minor.
2. *A minor sequence* of 9 to 12 hours of upper-division courses, preceded by proper lower-division courses, in some department closely related to the major department. At the option of the major department a second minor of 6 hours may be required in a second department closely related to the major department.
3. *Distribution Requirements* to complete a total of 24 hours if Option A was used in the Lower Division Curriculum (see "e" above).
4. *Electives,* under supervision of the departmental adviser, to make a total of 128 hours. At least 58 hours must be selected from the upper-division courses.

II. Premedical and Predental Courses (128 Hours)

The following sequence of courses is worked out for the guidance of students who are preparing for the study of Medicine, Dentistry, and the related professions. All of the required subjects are included. While the pre-professional student is meeting the entrance requirements of professional schools, committees on admissions of professional schools prefer that he use his elective hours to secure broad, general training rather than to secure a large number of credits in any one special field. Leading medical and dental educators in the United States today are definitely in favor of a good general training rather than extensive specialization in the so-called premedical sciences.

It is recommended that all students plan to complete the requirements for the Bachelor of Arts Degree.

[7]Students who do not present two units in a foreign language for entrance and who complete six hours in the same language in college must use three hours of electives here to complete the language requirements. Students who expect to complete the four-year course for a baccalaureate degree should use electives to complete prerequisites for a major or minor field while in the lower division.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Chemistry 1	4	Chemistry 2	4
Zoology 1	4	Zoology 2	4
Mathematics 3	3	Mathematics 4	3
Physical Education	1	Physical Education	1
Mil. or Air Science 1 (Men)	2	Elective (Women)	2-3
Elective (Women)	2-3		
Maximum hours allowed	18	Maximum hours allowed	18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 115 or Psychology 1	3	Chemistry 115 or Psychology 1	3
Physics 1	4	Physics 2	4
French or German	3	French or German	3
Mil. or Air Science 3 (Men)	2	Mil. or Air Science 4 (Men)	2
Physical Education (Women)	1	Physical Education (Women)	1
History 1 or 52	3	History 2 or 53	3
Art 115 or Speech 11 or elective	3	Art 115 or Speech 11 or elective	3
Maximum hours allowed	18	Maximum hours allowed	18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
French or German	3	French or German	3
Political Science 1	3	Political Science (upper division)	3
American or English Literature	3	American or English Literature	3
Chemistry 105 or 163 or 233	4-5	Chemistry 238 or elective	4-5
Zoology 231 or elective	5	Zoology 232 or elective	5
Maximum hours allowed	19	Maximum hours allowed	19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 163 or 233 or elective	4-5	Chemistry 238 or elective	4-5
Zoology 231 or elective	5	Zoology 232 or elective	5
Electives	8-9	Electives	8-9
Maximum hours allowed	19	Maximum hours allowed	19

Many medical schools recommended that Chemistry 233 and 238 and Zoology 231 and 232 be taken the year preceding entrance to medical school.

Candidates for the A.B. Degree in Premedicine or Predentistry must complete the following minimum number of credit hours in the subjects listed. English, 12 hrs. (must include English 1 and 2 and 6 hours of American or English Literature); French or German, 12 hrs.; Mathematics, 6 hrs. (must include Mathematics 3 and 4); Chemistry, 23 hrs. (must include Chemistry 1, 2, 115, 163, 233, 238, [105 also recommended]); Zoology, 18 hrs. (must include Zoology 1 and 2 [Biology 1 and 2 may be substituted], 231, 232); Physics, 8 hrs.; Psychology, 3 hrs.; Nonscience group, 30 hrs. in addition to specific courses listed above, (to be selected from Art, English, Humanities, Economics, Sociology, History, Political Science, Philosophy, Psychology, Speech, Foreign language, Education, Latin, Music, Home Economics, Library Science, Mathematics, Social Science.) The following Arts and Sciences group requirements must be included in the Nonscience group: Group 1 (6 hrs. of History or 6 hrs. of Humanities [general course]); Group 2 (6 hrs. of Economics, or 6 hrs. or Political Science, or 6 hrs. of Social Science [general course]); and Group 4 (3 hrs. of Art. or 3 hrs. of Home Economics, or 3 hrs. of Library Science, or 3 hrs. of Speech). Arts and Sciences Groups 3 and 5 are included in specific departmental requirements. A minimum of 128 hrs. including a minimum of 58 hrs. of upper division courses are required for the degree.

III. Combined Courses

Special Requirements.

Candidates for a combined A.B. degree (Pre-Medicine, Pre-dental or Pre-Law) are required to meet the special provisions of one of the two groups listed below. These requirements to be in addition to all other regulations prescribed in the particular curriculum for which the student is enrolled.

(a) A minimum of 96 hours of credit must be completed in the College of Arts and Sciences of West Virginia University of which 32 hours must be from the upper division courses. If prior approval from the Scholarship Committee or the Dean of the College is obtained by formal petitioning at the time of acceptance into an accredited professional school or college the successful completion of the first full year of the professional course may be offered in lieu of the senior work in residence. An official certification of the professional work must be made by the Registrar of the professional school to the University Registrar .

(b) A minimum of 64 hours of credit must be completed in the College of Arts and Sciences of West Virginia University of which 32 hours must be from the upper division courses. If prior approval is obtained from the Scholarship Committee or the Dean of this college by formal petitioning at the time of acceptance into a professional school or college of West Virginia University, the successful completion of the first full year of professional work may be presented toward requirements for graduation.

(a) ARTS AND LAW (123 HOURS)

Three years (96 hours) in the College of Arts and Sciences, and one full year (27 hours) in the College of Law

A pre-legal course has two main objectives. The first is to enable the student to acquire a general cultural background, which is in keeping with the chief purpose of the College of Arts and Sciences. The second is to help the student to secure a more specialized background for the legal course to follow.

In nearly all cases these objectives can be attained more effectively by taking the regular four-year Arts and Sciences course, during the last two years of which the student may choose his major and minor with particular reference to his legal work. In addition to securing the Bachelor of Arts Degree, it will qualify him for admission to almost any law school

To enable students to receive the degree of Bachelor of Arts and Bachelor of Laws in a shorter period of time, a combined course has been arranged by which the student may complete the required studies in the College of Arts and Sciences in three years, and after passing the entire first year of work in the College of Law, be awarded the degree of Bachelor of Arts by the College of Arts and Sciences. This course satisfies the entrance requirements to the College of Law, but permits freedom in choosing electives.

Candidates for a combined Arts and Law degree are required to meet the special provisions of one of the two groups (a and b) presented above. These requirements are held to be in addition to all other regulations prescribed in the particular curriculum for which the student is enrolled.

The student should confer with the pre-law adviser as soon as he enters the University. The following schedule is required to satisfy the foregoing provisions:

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 1	3
Laboratory Science	4	Laboratory Science	4
Foreign Language[8]	3	Foreign Language[8]	3
History or Humanities	3-4	History or Humanities	3-4
Mil. or Air Science 1	2	Mil. or Air Science 2	2
Phys. Education 1	1	Phys. Education 2	1
Max. hr.	16-17	Max. hr.	16-17

[8]Latin 1 and 2 are recommended for students not having entrance credit of 2 units in this subject.

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 9	3	English 10	3
Foreign Language	3	Foreign Language	3
History 52	3	History 53	3
Pol Sci. 1	3	Pol. Sci. 2	3
Electives, Groups 3, 4 or 5[9]	3	Electives, Group 3, 4, or 5[9]	3
Mil. or Air Science 3	2	Mil. or Air Science 4	2
	16-18		16-18

THIRD YEAR

Pre-law major	12
Pre-law minor	9
Electives (upper division)	9-15
	32 or more hours

FOURTH YEAR

27 hrs. in the College of Law

(b) ARTS AND MEDICINE OR DENTISTRY (128 HOURS)

(Recommended Curriculum for a Combined Course in Arts and Medicine or Dentistry)

Students who enter a School of Medicine or a School of Dentistry after the completion of a minimum of 107 hours (men) or 101 hours (women), of which 32 hours must be from the upper division courses, of the premedical and predental curriculum and who have satisfied all provisions of the College of Arts and Sciences regulations governing combined course programs may receive the Bachelor of Arts Degree upon the successful completion of the first year of medicine or dentistry.

A student who is a candidate for the A.B. Degree under the provisions of this curriculum must submit, at the time of his acceptance and prior to his registration in an accredited School of Medicine or School of Dentistry, a petition for the degree to his adviser who will forward it with his recommendations to the scholarship Committee. If the petition is approved, the candidate will be recommended for graduation upon receipt of certification from the professional school to the Registrar of the University to the effect he has successfully completed the first year of medicine or dentistry.

FIRST YEAR

Same courses as required in the Curriculum for A.B. degree in Premedicine or Predentistry.

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 115 or Psychology 1	3	Chemistry 115 or Psychology 1	3
Physics 1	4	Physics 2	4
French or German	3	French or German	3
Mil. or Air Science 3 (Men)	2	Mil. or Air Science 4 (Men)	2
Physical Education (Women)	1	Physical Education (Women)	1
History 1 or 52	3	History 2 or 53	3
Art 115, Speech 11, or Political Science 1	3	Art 115, Speech 11, or Political Science 1	3
Maximum hours allowed	18	Maximum hours allowed	18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
French or German	3	French or German	3
American or English Literature	3	American or English Literature	3
Chemistry 163	4	Political Science (upper division)	3
Chemistry 233	4	Chemistry 238	4-5
Zoology 231	5	Zoology 232	5
Maximum hours allowed	19	Maximum hours allowed	19

[9]See page 124.

The following minimum number of credit hours must be completed in the courses listed, English 12 hr, (must include English 1 and 2 and 6 hrs. of American or English Literature) French or German, 12 hrs.; Mathematics, 6 hrs. (must include Mathematics 3 and 4); Chemistry 23 hrs. (must include Chemistry 1, 2, 115, 163, 233, 238); Zoology 18 hrs. (must include Zoology 1 and 2 [Biology 1 and 2 may be substituted], 231, 232; Physics 8 hrs; Psychology, 3 hrs.; Nonscience group 15 hrs. (must include Group 1, 6 hrs. of History or 6 hrs. of Humanities [general course]); Group 2, 6 hrs. of Economics, or 6 hrs. of Political Science or 6 hrs. of Social Science [general course]; and Group 4, 3 hrs. of Art, or 3 hrs. of Home Economics or 3 hrs. of Library Science, or 3 hrs. of Speech). Groups 3 and 5 of the College of Arts and Sciences requirements are included in specific departmental requirements.

Students in the Combined Course program are urged to attend at least one Summer Session.

BACHELOR OF SCIENCE DEGREE

The Bachelor of Science Degree is conferred upon a student who complies with the general regulations of the University concerning degrees, satisfies all entrance and college requirements, and completes the requirements of one of the fields listed below:

1. Chemistry (See page 143).
2. Geology (See page 157).
3. Nursing Education (See page 178).
4. Social Work (See page 199).

For details of the course of study in each of the above fields consult the departmental announcements.

A SECOND BACHELOR'S DEGREE

A student who has received a Bachelor's Degree in one department or college of West Virginia University may become eligible for a second Bachelor's Degree by earning an additional 30 semester hours in residence in the College of Arts and Sciences and meeting all requirements, departmental and otherwise, of the second Bachelor's Degree.

PRE-PROFESSIONAL COURSES

Not leading to degrees in the College of Arts and Sciences

(A). Pre-Commerce Curriculum

Effective September 1, 1952, candidates for the degrees of Bachelor of Science in Business Administration or Bachelor of Science in Economics will be registered in the College of Arts and Sciences during their freshman and sophomore years. They will then be transferred to the College of Commerce, provided they have completed all lower division requirements of that College. (For further information see the *Announcements of the College of Commerce).*

(B). Pre-Education Curriculum

Candidates for the degree of Bachelor of Science in Secondary Education and Bachelor of Science in Elementary Education are registered in the College of Arts and Sciences until they have completed 58 hours or more of academic work in the lower division of the College, with a grade-point average of 2.0. They are then transferred to the College of Education. During the Pre-Education period students are advised to complete as many as possible of the general courses required by the College of Education and for State certification, as shown in the bulletin, *Teacher Selection, Guidance, Training and Certification* and/or the *Announcements of the College of Education* available at the Registrar's office.

In addition to the above general academic requirements students preparing to teach in high school are advised to complete as many as possible of the required academic courses in two teaching fields. Those preparing to teach in the elementary school will follow directions applicable to that field.

Upon the successful completion of the entire 64 hours of work in the lower division, Pre-Education students are eligible for the Junior Certificate of the College of Arts and Sciences.

TEACHING CERTIFICATES

The Dean of the College of Education is authorized by the Board of Governors to recommend all applicants for teaching certificates.

High-school teaching certificates may be obtained by students registered in the College of Arts and Sciences as well as in the College of Education, provided they meet the requirements for certification. To qualify for the elementary-school teaching certificate the student will transfer to the College of Education at the beginning of the junior year.

For specific requirements in regard to certification see the bulletin *Teacher Selection, Guidance, Training and Certification* and/or the *Announcements of the College of Education* available at the Registrar's office.

Candidates for the A.B. Degree who wish to qualify for teaching certificates should indicate this fact to their adviser and plan their entire course with this in view. Unless this is done by the end of the freshman year, students may encounter difficulties in qualifying for the certificate by the time they receive the degree. As a check, consultation should be had each semester with Beatrice Law or Mary Buswell, advisers of Pre-Education candidates for high-school teaching certificates or with Frank Herrera, L. M. Davis, Edwin Duda, or Ellen Vandervort, advisers of Pre-Education candidates for elementary-school teaching certificates.

(C.) Pre-Journalism Curriculum

Candidates for the degree of Bachelor of Science in Journalism are registered in the College of Arts and Sciences until they have earned at least 58 semester hours of college credit. During the freshman and sophomore years they should have completed all or most courses specified for pre-journalism majors.

A pre-journalism student who has not maintained at least a "C" average in all his college subjects during his first two years is strongly advised not to enroll in the professional school. If his average grade in English 1 and English 2 was less than "B," he should register for English 13 during his sophomore year. Before or soon after entering the University a student planning to become a journalism major should learn the touch system of typewriting. Since shorthand is of great practical value and frequently aids a graduate in obtaining a position, all students, especially those expecting to become assistants to executives, are urged to learn it before coming to college or during their freshman or sophomore year.

The recommended pre-journalism curriculum follows:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Newspaper Reporting	3	Newspaper Reporting	3
History 1	3	History 2	3	History 52	3	History 53	3
Science	4	Science	4	Foreign lang. or English 6*	3	Foreign Lang. or English 4*	3
Foreign lang.	3	Foreign lang.	3	Economics 1	3	Economics 2	3
Introduction to U.S. Journalism	1	Introduction to Reporting Skills	1	Psychology 1†	3	Pol. Sci. 2	3
Phys. educ.	1	Phys. edu.	1	Mil. or Air Sci.	3 2	Mil. or Air Sci.	4 2
Mil. or Air Sci.	1 2	Mil. or Air Sci.	2 2	Phys. educ. (women)	1	Phys. educ. (women)	1
Electives	0-2	Electives	0-2	Electives†	0-7	Electives†	0-4
Max. hr.	16-17		16-17		16-17		16-17

*Majors unable to schedule English 4 and English 6 in their sophomore year will be required to take them in their junior year.

†A sophomore expecting to become a high-school teacher will choose an elective in his intended teaching field as a substitute for Psychology 1 and in his junior year will take Education 105, Educational Psychology.

(D.) Pre-Nursing Curriculum

The pre-professional nursing curriculum is offered by the Department of Nursing Education to students interested in professional nursing as a career, and who plan to enter a collegiate school of nursing. The Pre-Nursing Curriculum is designed

to provide two years of general college work consisting of subjects required in most of the accredited collegiate schools; to stimulate and guide students in selection of courses in the physical and social sciences, in education and in the humanities, as a basis for the basic professional nursing programs leading to the baccalaureate degree; and to give students the personal rewards and satisfactions of working with and helping others, and of participating in Nursing's contribution to family and national welfare in a democratic society as students and graduates of collegiate schools of nursing. Students are advised to select, as early as possible, the school of nursing they plan to enter, so that any specific requirements can be included in the required and elective hours provided. Experience has shown that students who fail to attain a minimum average of "C" may find it difficult to obtain admission to the school of nursing of their choice, or to any other collegiate or hospital school of nursing.

Students in the Pre-Nursing Curriculum major who wish to complete the requirements for the Bachelor's Degree in the third and fourth years at West Virginia University before admission to a school of nursing are advised to select a major and minor subject from either sociology, social work, psychology, education, biology or zoology. This preparation meets the requirements for entrance into university schools of nursing whose advanced basic nursing degree programs lead to the Master of Nursing Degree: in thirty-two months at Yale University or Western Reserve University Schools of Nursing.

The recommended Pre-Nursing Curriculum is:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Eng. 1	3	Eng. 2	3	English (Lit.)	3	English (Lit.)	3
Chem. 1	4	Chem. 2	4	Sociol. 1	3	Sociology 2 or 210	3
Zoology 1 or Biology 1	4	Zoology 2 or Biology 2	4	Psychology 3 or 1	4	Psych. 122 or 125	3
*Elective	3	Elective	4-5	Health Educ.	3	Educ. 105	3
P.E.	1	P.E.	1	Elective	3-5	Elective	4
				P.E.	1	P.E.	1
	15		16-17		16-17		17

*Electives include subjects required by collegiate schools of nursing, such as speech, nutrition, bacteriology, history, and foreign language.

(E.) Pre-Professional Social Work

An undergraduate pre-professional social work curriculum for juniors and seniors is available in the Department of Social Work. The purposes of this curriculum are to prepare students to enter graduate professional training, to qualify students for positions in social agencies for which graduate professional education is not now required, and to provide understanding of social work for those students who desire it as a part of their general education. (See Social Work.)

(F.) Curriculum in Pre-Medicial Technology

The curriculum outlined below is designed to satisfy the course requirements for admission to the specialized and technical portion of the curriculum in Medical Technology offered by the School of Medicine.

Students are not transferred automatically from the pre-professional course (first two years) to the professional course (third and fourth years). Only a limited number of students can be accommodated in the third and fourth years. Preference is given to residents of West Virginia. Application for admission to the third year should be made on forms obtainable from the School of Medicine and must be presented at the office of the dean of the school. Applications should be filed in February of the second year. Admission to the third year is on the recommendation of the Committee on Medical Technology of the Medical School and with the approval of the Dean of the Medical School.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 1	4	Chemistry 2	4
Zoology 1	4	Zoology 2	4
English 1	3	English 2	3
French or German	3	French or German	3
Mil. or Air Science (Men)	2	Mil. or Air Sci. 2 (Men)	2
Physical Education	1	Physical Education	1
Nonscience Electives (Women)	2-3	Nonscience Electives (Women)	2-3
Maximum hours allowed	18	Maximum hours allowed	18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 131	4	Chemistry 6 or 106	4
English 3 or 5	3	English 4 or 6	3
French or German	3	French or German	3
Physics 1	4	Physics 2	4
Physical Education (Women)	1	Physical Education (Women)	1
Mil. or Air Science 3 (Men)	2	Mil. or Air Science 4 (Men)	2
Nonscience electives	2-3	Nonscience electives	2-3
Maximum hours allowed	18	Maximum hours allowed	18

Mathematics 2 and 3 are recommended electives.

(G.) Rehabilitation Counseling Program

The College of Arts Sciences, through its Departments of Psychology, Social Work, and Sociology and in cooperation with the College of Education, is contributing to the establishment of a graduate training program in Rehabilitation Counseling. The program is interdisciplinary in concept, interdepartmental in organization, and functions under the supervision of a policy committee consisting of the deans of the above colleges, department heads, and a program coordinator. Graduates will be prepared to enter the public and private agencies and facilities providing services to the physically and mentally handicapped.

For further information, write to the Registrar of the University.

COURSES OF INSTRUCTION AND CURRICULA

INTEGRATED STUDIES

Professor Crocker (chairman); Instructor Hoback, Hoke, Newman, and Stephens, and Interdepartmental Staff.

Integrated Studies covers four main areas of knowledge and certain basic skills. In the four principal fields of knowledge, courses cut across departmental lines as follows: (1) Humanities: history, Romance languages, English language and literature, speech, Germanic languages and literature, art, philosophy, music; (2) Social Studies; political science, psychology, economics and business administration, sociology, economics, social work (3) Biological Sciences; zoology, botany, psychology; (4) Physical Sciences: geology, geography, chemistry, physics, mathematics, astronomy. In the basic skills, courses are offered in Communication: writing, reading, speaking, and listening.

In the lower division, the four introductory general courses provide (a) general knowledge of subjects not covered by the student's field of major interest and (b) perspective for later concentration in certain fields. These courses, are, in addition, recommended for the student who has not chosen a field of specialization. The student will have through these introductions to the main bodies of knowledge an opportunity to discover his real interests and aptitudes for more advanced study. The Communication courses develop proficiency in the skills of writing, reading, speaking, and listening, and thus contribute toward successful work during college

and after graduation. Available to all students in the University are laboratory and clinical facilities for corrective work in speech, reading, writing, and listening.

In the upper division, courses are offered that continue at an advanced level the study of important ideas and concepts in the various fields of learning. A deliberate attempt to made to secure in these courses an integrated understanding of a particular subject and its important connections with related fields. These courses frequently consider problems not encountered in sharply defined departmental or specialized courses, and they serve to provide the student with important cross-connections between established disciplines.

Courses of Instruction

I. THE HUMANITIES

1, 2. Introductory General Course. I, II. 4 hr. per semester.
This course is designed to bring to the student's attention cross sections of his civilization at those points where its development has been most significant. In accordance with this aim a substantial part of the course is its background of history, to which are added a survey of world literature, enough philosophy to acquaint the student with the principal thought patterns employed by Western men, the main developments in art and architecture, and some music. A constant attempt is made in the lectures and discussions to relate the past with the present, and to show the continuity of what we call Western Civilization.

The assigned readings constitute the most important feature of the course, in that they supply most of the factual material. Lectures are primarily for the purpose of orientation—to help the student interpret the reading. Lectures on art, architecture, and music are illustrated. Weekly discussion periods are an important part of the course. In them students meet in small groups with an instructor, and an effort is made to help them understand the relations of the past to present-day problems. Through the aid of a syllabus, the course is shown in perspective in order that it may be better conceived as a whole. Mr. Manning and Staff

141. Great Books. (First Course). I. 3 hr. Five literary masterpieces in translation are considered in this course: Plato's *Republic,* Sophocles' *Oedipus Rex* and *Antigone,* Dante's *Divine Comedy,* Cervantes' *Don Quixote,* and Gothe's *Faust.* Taken separately and in order they represent the Greek world, the Middle Ages, Renaissance, and the Modern period. Taken as a group they illustrate the persistent conflict in the literature of Western Civilization between the actual and the ideal. Mr. Craven

142. Great Books. (Second Course). II. 3 hr. Five literary masterpieces, of which four are in translation, are considered in this course: Marcus Aurelius' *Meditations,* Benvenuto Cellini's *Memoirs,* Montaigne's *Essays,* Rousseau's *Confessions,* and Boswell's *Life of Samuel Johnson..* These evaluations of the problems of life, ranging from the time of the Roman Empire to the modern American, constitute the integrating principle of the course. Mr. Craven

181. 182. American Civilization. I, II, 3 hr. per semester. This course is designed to acquaint the student with the salient characteristics of American Civilization as they have developed since the planting of European colonies on this continent. Emphasis is placed on the unique contributions of successive arrivals on American shores to the making of a distinctive American culture, as evidenced in its folkways, arts, and philosophy. The central theme of the course is the manifestation of the democratic spirit in the achievements in thought and feeling of the American people. This course is open to all upper-division students. Mr. Newman

II. THE SOCIAL SCIENCES

1, 2. Introductory General Course. I, II. 4 hr. per semester. The general course in social science aids the student in his preparation for citizenship by advancing his understanding of the social order. Major attention is given to an

analysis of economic, political, and other social conditions now existing in the United States. A brief analysis of the place of this country in world affairs is included. The course is organized on the basis of two lectures and two discussion periods each week. Mr. Gibbard and Staff

III. THE BIOLOGICAL SCIENCES

1,2. Introductory General Course. I, II. 4 hr. per semester. Primarily for the student who is not a major in biology, the Introductory General Course deals with the basic values of biology in relation to civilization and modern culture. The course considers the organization and functions of living organisms in general, as well as the relations between these organisms and the connection with their physical environment, but emphasis throughout is placed on the importance of the human being and his relationships with other organisms.

Individual student participation is encouraged in discussion periods and in the laboratory, where subject matter may require some group work with equipment and specimens. Lectures are amplified by moving pictures and by demonstrations, one room being continually reserved for demonstrations that illustrate subject matter of the course. *(This course is identical with Biology* 1 *and* 2, *General Biology.)* Mr. Core and Staff

207. History of Biology. I. 3 hr. PR: 1 year of biology or equivalent. This course deals with landmarks in the history of the development of biological knowledge. Relatively intensive studies are made of the biographies of outstanding biologists as examples of their periods. Mr. Core

208. Great Texts in Biology. II. 1 hr. PR: Biology 2 or equivalent. A study of some of the great classics in biology, such as Theophrastus' *Enquiry into Plants,* Vesalius' *Epitome,* Harvey's *Motion of the Heart and Blood,* Darwin's *Origin of Species,* and Mendel's *Experiment on Hybrid Plants.* The course is designed to acquaint the student with the historical and philosophical background of modern biology and to show how the utilization of the scientific method has resulted in the great biological discoveries. Mr. Core

IV. THE PHYSICAL SCIENCES

1, 2. Introductory General Course. I, II. 4 hr. per semester. The Introductory Course in the Physical Sciences is intended to acquaint the student with the physical world in which he lives and has two main objectives: (1) to serve as an orientation course for those students who have not chosen their major field of interest, and (2) to present a broad general view of the physical sciences to students whose interests lie in other fields.

Two periods each week are devoted to formal lectures and desk demonstrations; one period a week is used for discussion and quiz in small groups; and one period a week is devoted to laboratory demonstrations, museum displays, and field trips. Motion-picture films are used in connection with certain phases of the course. The syllabus is designed to give a general view of the whole field of the physical sciences as well as serve as a guide for weekly lectures, readings, and discussions.

Students who have successfully completed eight hours of a laboratory science in one of the physical science fields (physics, chemistry, geology) can not take Physical Science 1 or 2 for credit. Mr. Hickman and Staff

103. Elements of Modern Science. 3 hr. PR: Any beginning laboratory science course. Intended primarily for nonscience majors, this course develops an understanding of Science and scientific methods through a study of the development of ideas from early concepts to the present. This illustrative material, drawn from the work of outstanding creative scientists, is integrated in such a way as to provide the student, not with a series of isolated pictures, but with an over-all view of the framework of modern scientific thought and its relation to man in society. The emphasis is not on the technical aspects of science, consequently, a knowledge of mathematics beyond intermediate algebra is not required. Staff

150. Modern Scientific Thought. 3 hr. PR: 14 hours of science and consent of instructor. Intended for science and philosophy majors, this course undertakes a critical analysis of the methodology, epistemology ,and basic concepts of modern science and particularly of the exact deductive sciences, and it aims to develop the intellectual tools in terms of which various philosophical interpretations of modern natural science can be evaluated. Staff

V. COMMUNICATION

English 0. (Communication). Corrective Course. I, II. 3 hr. For students deficient in the communication skills, as determined by achievement on entrance tests in writing and speaking. Remedial work in laboratory classes. Must be followed by English 1 (Communication) and English 2 (Communication). Staff

English 1. (Communication). Basic Course in Composition and Rhetoric, I, II. 3 hr. Practice in writing, reading, speaking, and listening to expository discourse. Classes organized to emphasize one of the skills according to the needs of the students. Special sections are provided for students with no marked deficiencies in any of the communications skills, as determined by achievement on entrance tests and in performance tests in writing and speaking. Staff

English 2. (Communication). Basic Course in Composition and Rhetoric, I, II. 3 hr. PR: English 1 (Communication). Continuation of English 1 (Communication). Practice in critical and argumentative discourse. Consideration of the function of language, abuses of logic, and mass communications. Advanced sections are provided. Staff

Courses primarily for sophomores:

English 21. (Communication). The Use of Language. II. 3 hr. PR: English 1 and 2 or English 1 (Communication) and 2 (Communication). Practice in the communication skills based upon materials covered by the four general areas of knowledge which constitute the program of Integrated Studies. Staff

Courses primarily for upper-division and graduate students:

English 211. (Communication). Problems of Communication. I. 3 hr. Survey of the nature of communication, semantics in clarfying interpersonal communication, and responsibilities and social effects of mass communication. Staff

English 220. (Communication). General Semantics. II. 3 hr. PR: Basic course in at least four of the following fields; English, foreign language, physical science, biological science, history, psychology, social science, or philosophy and consent of instructor. The scientific method and language, the relation between symbols and reality, the effect of symbols on personal and social conflicts, practical devices of written and spoken communication — with continued emphasis on practical applications in various fields. Staff

ART

Professor Patton; Assistant Professor Clarkson and Instructors Aull and Ubinger.

The Department of Art offers technical courses in drawing, painting, and design; a nontechnical course in appreciation; and lecture courses in the history of the arts. Effort is made to provide for the needs of those interested in the cultural aspects of the arts, to meet the requirements of students planning further work of a technical nature, and to enable students in Education to meet requirements for certification as art teachers.

For art majors the following program is recommended:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Foreign Lang.	3	Foreign Lang.	3
Foreign Lang.	3	Foreign Lang.	3	Art 121	3	Art 122	3
Laboratory sci.	4	Laboratory sci.	4	Elect. Group 1	3-4	Elect. Group 1	3-4
Art 11	3	Art 12	3	Elect. Group 2	3-4	Elect. Group 2	3-4
Mil. or Air Sci. 1	2	Art 30	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. educ.	1	Mil. or Air Sci. 2	2	Phys. Education	1	Phys. Education	1
		Phys. educ.	1				
	14-16			Elective to		Elective to	
			16-18	make	17-18	make	17-18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Art 113	3	Art 114	3	Art elective	3	Art elective	3
Art 105	3	Art 106	3	Minor sequence (upper div.)	4-6	Minor sequence (upper div.)	4-6
English 18 or 21	3	Upper Division elect. Group 3	3				
Upper Division elect. Group 3	3	Upper Division elect. Group 5	3-4				
Elective	6	Elective	4				
	18		16-18	Elective to make	18	Elective to make	18

Courses of Instruction

1. Creative Expression in Fine Arts. I, II, S. 2 hr. Primarily for Elementary Education majors. An exploratory course designed to familiarize the student with the possibilities of creative expression through graphic media; to acquaint the student with the advantages and limitations of the various media; and to investigate the adaptability of these to use at various grade levels. Miss Ubinger

2. Creative Expression in the Applied Arts. I, II, S. 2 hr. A course similar to Art 1 but employing materials such as clay, plasteline, paper, felt, gesso, plaster, and the like, as a means of creative expression. Miss Ubinger

11 or 111, 12 or 112. Representation. I, II. 3 hr. per semester. Freehand drawing in pencil and charcoal. Staff

30. Appreciation of the Arts. I or II. 2 hr. A study of outstanding works of art from times past as well as from the present day. Topics treated include—the materials with which the artist works; sources of the art impulse; and the relation of art to the civilization producing it. Mr. Patton

105. 106. Survey of Art. I II. 3 hr. per semester. History of art from pre-historic times to the present. Offered 1957-58 and alternate years. Mr. Patton

113, 114. Representation. I, II. 3 hr. per semester. PR: Art. 11, 12, Painting. Staff

115. Representation. I, II. 3 hr. Scientific drawing. Freehand drawing primarily for premedical and predental students. Staff

117, 118. Representation. I, II. 3 hr. per semester. PR: Art. 113, 114. Painting. Mr. Patton and Mr. Clarkson

120. Representation. I or II. 2 hr. PR: Art. 11, 12 or consent of instructor. Figure drawing. Study of the construction of the figure. Drawing from the draped model. Staff

121, 122. Fundamentals of Design. I, II. 3 hr. per semester. Mr. Patton and Mr. Clarkson

123. Lettering. I or II. 2 hr. Principles of design involved in lettering and their application. Mr. Patton

126. Modeling. I, II. or 2 hr. PR: Consent of instructor. Introductory course in sculpture. Mrs. Aull

127. Crafts. I or II. 2 hr. Crafts in their relation to the art program in the secondary school and to recreation programs. Staff

130. Appreciation of the Arts. I or II. 3 hr. Increasing the student understanding and enjoyment of the arts; analytical study of selected examples of painting, sculpture, and architecture together with sufficient illustrations from music and poetry to make clear the basic unity of the arts. Mr. Patton

151, 152. Special Problems. I, II. 1-3 hr. per semester. Staff

220. Art and the Schools, I, II, S. 2 hr. PR: 4 hours of art including a minimum of 2 hr. studio. The function of art in the curriculum at various grade levels. Standards of achievement. Methods of integrating art and the other subjects. Mr. Patton

250. Renaissance Painting.. I, II. 3 hr. PR: Art. 105 and 106. A study of painting in Italy from Cimabue to Tiepolo; the Rennaissance in Western Europe; a brief consideration of baroque and rococo painting as outgrowths of the Rennaissance. Offered 1956-57 and alternate years. Mr. Patton and Mr. Clarkson

260. Modern Painting. II. 3 hr. PR: Art. 105 and 106. Development of painting from the French Revolution to the present day. Offered in 1956-57 and alternate years. Mr. Patton and Mr. Clarkson

BIOLOGY

Professors Core, Ammons, Gribble, and Taylor; Associate Professor Bennett; Assistant Professors Hale, Norman, and Schwartz; Instructors Baer, Daugherty, Schmieder, Smell, Smith and Vandervort.

Students may select biology, botany or zoology as their major subject. Biology 1 and 2 or Botany 1 and 2 will be required of students who wish to major in botany. Either Biology 1 and 2 or Zoology 1 and 2 will be required of students who elect to major in zoology. Majors in biology should take Biology 1 and 2.

Prospective majors in biology, botany or zoology should include in their schedule of lower-division work Chemistry 1 and 2. Prospective majors in zoology should also include Chemistry 115 in lower-division schedule.

TEACHER CERTIFICATION FOR BIOLOGY MAJORS

A student may meet the requirements for the A.B. degree with a major in Biology and at the same time qualify for teacher certification. The curriculum suggested below is designed to include the requirements of the basic subjects prescribed for the first two years for prospective teachers. During the junior and senior years the courses required in the major and minor subjects will largely coincide with those required for first and second teaching fields for high school teachers. At the same time they will complete the required work in Education in the teacher-training program.

CURRICULUM FOR THE A.B. DEGREE WITH A MAJOR IN BIOLOGY

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Social Science 1	4	Social Science 2	4
History 1	3	History2	3	Chemistry 1	4	Chemistry 2	4
Biology 1	4	Biology 2	4	Physics 1	4	Physics 2	4
Foreign lang.	3	Foreign lang.	3	Foreign lang.	3	Foreign lang.	3
Phys. Ed.	1	Phys. Ed.	1	Phys. Education (women)	1	Phys. Education (women)	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Mil.or Air Sci. 3	2	Mil. or Air Sci. 4	2
	14-16		14-16		16-17		16-17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Education 105	3	Hlth. Educ. 101	2	Education 124	4	Education elect.	3
Biology (upper div.)	10	Education 106	3	Education 150	2	English 18	3
Music 10	2	Biology (upper div.)	6	Education 120	2	English 164, 166	3
Genetics 221	3	English 5	3	Education 114	3	Biology (upper div.)	4
		Chemistry 106	4	Biology (upper div.)	4	Chemistry 233	5
				Art 130	3		
	18		18		18		17

CURRICULUM FOR THE A.B. DEGREE WITH A MAJOR IN BOTANY

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Botany 1 or Biology 1	4	Botany 2 or Biology 2	4	Foreign language	3	Foreign language	3
English 1	3	English 2	3	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Foreign language	3	Foreign language	3	Physical Educ. (women)		Physical Educ. (women)	
Group 3 elective	3	Group 3 elective	3	Physics 1	4	Physics 2	4
Physical Educ.	1	Physical Educ.	1	Chemistry 1	4	Chemistry 2	4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Group 1 elective	3-4	Group 1 elective	3-4
Elective	2	Elective	2				
	16-18		16-18		16-18		16-18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Group 2 elective (lower div.)	3	Group 2 elective	3	Chemistry 233	4	Chemistry 238	4
Group 4 elective (lower div.)	3	Chemistry 115	3	Botany (or elect.) (upper div.)	12-14	Botany (or elect.) (upper div.)	12-14
Group 5 elective (upper div.)	3	Genetics 221	3				
Botany (or elect.) (upper div.)	7-9	Botany (or elect.) (upper div.)	7-9				
	16-18		16-18		16-18		16-18

CURRICULUM FOR THE A.B. DEGREE WITH A MAJOR IN ZOOLOGY

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Zoology 1 or Biology 1	4	Zoology 2 or Biology 2	4	Art 115	3	Chemistry 115	3
English 1	3	English 2	3	Physics 1	4	Physics 2	4
Chemistry 1	4	Chemistry 2	4	Foreign language	3	Foreign language	3
Mathematics 3	3	Mathematics 4	3	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Education	1	Phys. Education	1	Physical Educ. (women)	1	Physical Educ. (women)	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Group 1 elect.	3-4	Group 1 elect.	3-4
				Electives	2-4	Electives	2-4
	17		17		18		18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Group 2 elective	3	Group 2 elective	3	Chemistry 163	4	Zoology 232	5
Chemistry 233	4	Chemistry 238	4	Zoology 231	5	Biology 274	4
Foreign language	3	Foreign language	3	Biology 273	4	Electives (upper division)	7-9
Botany	4	Botany	4	Electives (upper division)	4		
Zoology 251	4	Electives (upper division)	3-5				
	18		18		18		18

Candidates for the A.B. degree in Zoology must complete the following minimum number of credit hours in the subjects listed in addition to University and College of Arts and Sciences general requirements. Mathematics, 6 hr. (must include Mathematics 3 and 4); Chemistry 23 hrs. (must include Chemistry 1, 2, 115, 163, 233, 238); Physics 8 hrs.; Art. 115; Biological Sciences 38 hrs. (must include Zoology 1 and 2 [Biology 1 and 2 may be substituted], Zoology 231, 232, 251, Biology 273, and 274, and Botany (8 hrs.). A minimum of 128 hrs., including a minimum of 58 hrs. of upper division courses, are required for the degree.

Courses of Instruction

BIOLOGY

Lower Division

1, 2. General Biology. I, II, 4 hr. per semester. General Introductory course in Biology. Mr. Core and Staff

51. Microbiology. I. 3 hr. An introduction to the study of microorganisms. Primarily for nurses. Mr. Hobbs

Upper Division

201, 202, 204, Biology Workshop. I, II, S. 2 hr. per semester. PR: Biology 2 or equivalent. Lectures and conferences designed to fit individual needs. Primarily for biology teachers or those preparing to teach biology. Mrs. Smell

203. Biological Science for the Elementary School. S. 2 hr. PR: General Biology or equivalent. Lectures, demonstrations and field trips designed to provide a brief suvery of certain aspects of general biology suitable for elementary schools. Staff

205. Principles of Evolution. I. 3 hr. PR: Biology 2, Botany 2, or Zoology 2. An introduction to the study of evolution. Mr. Bennett

207. History of Biology. I. 3 hr. PR: Biology 2. History of the development of biological knowledge, with philosophical and social backgrounds. Mr. Core

208. Great Texts in Biology. II. 1 hr. PR: Biology 2 or equivalent. A study of some of the great classics in biology, such as Theophrastus' *Enquiry into Plants*, Vesalius' *Epitome*, Harvey's *Motion of the Heart and Blood*, Darwin's *Origin of Species*, and Mendel's *Experiments on Hybrid Plants*. Mr. Core

209. The Literature of Biology. I. 1 hr. PR: Biology 2 or equivalent. A consideration of the sources and forms of the literature, the development of bibliographies, and the preparation of scientific papers. Mr. Bennett

211. Microtechnique.. I. 3 hr. PR: Biology 2, Botany 2 or Zoology 2, or equivalent. Theory and practice of making microscopic preparations, etc. Primarily for botany and zoology majors. Miss Daugherty

215. Cytology. II. 4 hr. PR: Biology 2. Cells their structure and functions. Mr. Bennett

Graduate Division

301, 302. Seminar. I, II. 1 hr. per semester. Topics of interest to all biologists are considered. All members of the staff and graduate students contribute by the

presentation of a report on some scientific activity. Required of all graduate students. Staff members and students in other departments are invited to attend. Staff

311. Advanced Microtechnique. II. 1-3 hr. PR: Biology 211 and consent of instructor. Miss Daugherty

321, 322. Seminar in Ecology. I, II. 2 hr. per semester. PR: Botany 221 or Zoology 221 and consent. Selected topics on relations of organisms to environment and on communities of organisms. Staff

376, 377. Seminar in General Physiology. I, II. 2 hr. per semester. PR: Biology 274, Botany 273, Zoology 271, or Plant Pathology 330, and consent. Selected topics on functions common to all organisms. Staff

BOTANY

Lower Division

1, 2. General Botany. I, II. 4 hr. per semester. Introductory course in botany. Miss Ammons and Staff

61. Systematic Botany. I. 2 hr. Indentification of seed plants. Primarily for students in Forestry. Mr. Hale

67, 68. Dendrology. I, II, 3 hr. per semester. PR: Biology 2. Classification and distribution of the timber trees of the United States. Primarily for students in Forestry. Mr. Core

71. Plant Physiology, II. 2 hr. Physico-chemical processes of plants. Primarily for students in Forestry. Mr. Baer

Upper Division

104. The Plant Kingdom. II. 4 hr. A survey of the plant kingdom. Miss Ammons

161. Systematic Botany. II. 4 hr. Identification of seed plants and study of their classification. Mr. Hale

201, 202. Seminar. I, II. 2 hr. per semester. Topics of interest to all students of plants are considered. Staff

218. Economic Botany. II. 3 hr. PR: Biology 2 or Botany 2. Plants from the standpoint of their value to man. Mrs. Vandervort

221. Plant Ecology. I. 4 hr. PR: Biology 2 or Botany 2. Environmental relationships of plants. Mr. Baer

224. Plant Communities. S. 3 hr. PR: Biology 2 or equivalent. Field studies in Ecology. Mr. Bennett

227. Geographic Botany. I. 2 or 3 hr. PR: Botany 2 or Biology 2. Study of plant groupings and worldwide distribution of plants. Mr. Core

231. Plant Morphology. I. 4 hr. PR: Biology 2 or Botany 2. Development and structure of bryophytes and vascular plants. Mr. Bennett

232. Plant Morphology. II. 4 hr. PR: Biology 2 or Botany 2. Development and structure of bryophytes and vascular plants. Mr. Bennett

235. Plant Anatomy. I. 3 hr. PR: Botany 2 or equivalent. Anatomy of seed plants. Miss Ammons

255. Bryophytes. II. 2 hr. PR: Botany 2 or Biology 2. Identification of liverworts and mosses. Miss Ammons

261. Advanced Systematic Botany. I. 3 hr. PR: Botany 161 or equivalent. Taxonomy of pteridophytes, gymnosperms and monocotyledons. Mr. Hale

262. Advanced Systematic Botany. II. 3 hr. PR: Botany 161 or equivalent. Taxonomy of dicotyledons. Mr. Hale

263. Taxonomy of Vascular Plants. S. 3 hr. Field sudies in the taxonomy of higher plants. Mr. Bennett

265. Aquatic Seed Plants. I. 3 hr. PR: Biology 2 or equivalent. Classification, ecology and economic importance of aquatic seed plants. Mr. Bennett

266. Flora of W.Va. II. 3 hr. PR: Biology 2 or equivalent. A consideration of the native plant life of the State. Mr. Core

273. Plant Physiology. I. 4 hr. PR: Biology 2 or Botany 2, and Chemistry 1 and 2 or equivalent. Physico-chemical processes of plants. Mr. Baer

296, 297. Special Topics. I, II. 1-4 hr. per semester. PR: Approval of instructor. Critical studies of topics to be assigned by the instructor. Staff

Graduate Division

325. Experimental Ecology. II. 4 hr. PR: Biology 1, Botany 161, and Botany 221 or equivalents. Experiments on environmental relations of plants. Mr. Baer

351, 352. Problems in Plant Taxonomy. I, II. 1-6 hr. PR: Botany 261, 262, or equivalent. Mr. Core

368. Agrostology. I. 2 hr. PR: Botany 161 or equivalent. Taxonomy of grasses. Mr. Core

374. Advanced Plant Physiology. II. 2-4 hr. PR: Botany 273 or equivalent; also courses in general physics and organic chemistry. Advanced studies of plant processes and physiological methods. Mr. Baer

391, 392, 393, 394. Research. I, II. 1-6 hr. Staff

ZOOLOGY

Lower Division

1, 2. General Zoology. I, II. 4 hr. Facts and principles fundamental to an understanding of invertebrate and vertebrate animals. Designed for pre-medical students and prospective majors in zoology. Students who have taken Biology 1 or 2 may not register in this course. Mr. Taylor and Staff

31. Human Anatomy. I. 4 hr. General anatomy for nurses. Mr. Gribble

Upper Division

171. Human Physiology. II. 4 hr. An introductory course in the functions of man. Mr. Norman and Staff

210. Animal Behavior. I. 3 hr. PR: Zoology 2 or equivalent. Principles of individual and group behavior. Offered in 1956-57 and alternate years thereafter. Mr. Taylor

221. Animal Ecology. I. 3 hr. PR: Zoology 2 or equivalent. Relations between animals and their environment with emphasis on communities of living organisms. Offered in 1957-58 and alternate years thereafter. Mr. Taylor

222. Field Studies of Invertebrates. S. 3 hr. Taxonomy and ecology of the invertebrates. Staff

223. Field Studies of Vertebrates. S. 3 hr. Taxonomy and ecology of the vertebrates. Staff

231. Comparative Anatomy. I. 5 hr. PR: Zool. 2 or equivalent. Organs and systems of various vertebrates, together with other facts of interest concerning these animals. Mr. Gribble and Miss Smith

232. Vertebrate Embryology. II. 5 hr. PR: Zoology 2 or equivalent. Introductory study of development of vertebrates, based chiefly on frogs, fowl and mammals. Mr. Gribble and Miss Smith

233. Comparative Histology. II. 3 hr. PR: Zoology 231 and 232. A comparative study of the tissues of the vertebrates. Miss Smith

235. Comparative Developmental Anatomy. II. 3 hr. PR: Zoology 231. Anatomy and development of the organs and systems of various vertebrates. Mr. Gribble

236. Comparative Neuroanatomy. II. 3 hr. PR: Zoology 2 or equivalent. Comparative study of development and anatomy of the nervous systems of the vertebrates. Mr. Gribble

237. Osteology. I. 2 hr. PR: Zoology 2 or equivalent. Development and anatomy of the skeleton. Miss Smith

251. Invertebrate Zoology. I. 4 hr. PR: Zoology 2 or equivalent. Advanced study of animals without backbones. Mr. Birch

255. Introduction to Human Parasitology. II. 4 hr. PR: Zoology 2 or equivalent. Biological aspects of parasites and other animals of medical importance. Mr. Taylor

265. Ornithology. II. 3 hr. PR: Zoology 1 or equivalent, and permission of instructor. Field and laboratory studies on identification, migration, protection, nesting and food habits of birds. Mr. Birch

271. Physiology of Domestic Animals. I. 4 hr. PR: Zoology 2 or equivalent. The functions of domestic animals. Offered in 1956-57 and alternate years. Mr. Norman

272. Physiology of the Endocrines. I. 4 hr. PR: General Zoology or General Biology, Comparative Anatomy, Organic Chemistry. Comparative physiology of endocrine mechanisms. The relation of hormonal and parahormonal agents to chemical coordination, metabolism, growth, development and sex. Offered in 1957-58 and alternate years. Mr. Norman

273. 274. General and Comparative Physiology. I, II. 4 hr. per semester. PR: Biology 2, Botany 2, or Zoology 2. A consideration of the functions common to all forms of living matter. Mr. Norman

Graduate Division

324. Limnology. I. 4 hr. PR: Consent of instructor. Physical, Chemical, and bio. logical investigations of lakes and inland waters. Mr. Schwartz

331. Mammalian Anatomy. S. 3 hr. PR: Zoology 231, 232, 233, 235, 236 and 237 and consent of instructor. The study of the anatomy of selected animals from the regional and sectional approach. Offered 1958 and every third year. Mr. Gribble

332. Anatomy of the Integument. I. 2 hr. PR: Zoology 231, 232, 233, 233 and 235 and consent of instructor. An advanced study of the gross, developmental, comparative, and microscopic anatomy of the integument and its derivatives. Offered 1957-58 and every third year. Mr. Gribble

334. Anatomy of the Circulatory and Respiratory Systems. II. 3 hr. PR: Zoology 231, 232, and 235 and consent of instructor. An advanced study of the gross, developmental, and comparative anatomy of the circulatory and respiratory systems. Offered 1957-58 and each third year. Mr. Gribble

335. Anatomy of the Urogenital System. I. 3 hr. PR: Zoology 231, 232, and 235 and consent of instructor. An advanced study of the gross, developmental and comparative anatomy of the genital and urinary systems. Offered 1956-57 and every third year. Mr. Gribble

336. Advanced Comparative Neuroanatomy. II. 3 hr. PR: Zoology 231, 232, 233 and 236 and consent of instructor. An advanced study of the gross, microscopic, developmental, and comparative anatomy of the nervous system. Offered 1956-57 and every third year. Mr. Gribble

337. Advanced Osteology. S. 3 hr. PR: Zoology 231 and 237 and consent of instructor. The study of the gross, microscopic, development, and comparative anatomy of the skeleton. Offered in 1956 and every third year. Miss Smith

338. Analogies and Homologies. I. 3 hr. PR: Zoology 231, 232, 233, 235, 236, 237, 331, 334, 336, and 337 and consent of instructor. A detailed study of the analogies and homologies as found in the verterates. Offered 1957-58 and every third year. Mr. Gribble

339. Anomalies and Variations. II. 3 hr. PR: Zoology 231, 232, 233, 235, 236, 237, 331, 334, 335, 336, 337, and 338 and consent of instructor. A detailed study of the types, causes, results and frequency of vertebrate anatomical and developmental anomalies and variation. Offered in 1957-58 and every third year. Mr. Gribble

351. Advanced Invertebrate Zoology. I, II. 1-4 hr. PR: Zoology 251 and consent. Mr. Birch

391, 392, 393, 394, Research. I, II. 1-6 hr. Staff

396, 397. Special Topics. I, II. 1-3 hr, per semester. Critical studies of topics to be determined according to the student's requirements. Staff

CHEMISTRY

Professors Lazzell, Collett, Gibson, and J. L. Hall; Associate Professor Iffland; Assistant Professors Bettinger, G. A. Hall, Hickman, Humphrey, Larson, Muth, Paul, and Wilhelm, Instructors Miller, and Popovich.

Chemistry 1 and 2 are prerequisite to all other courses in chemistry. Chemistry 5, 6, 233, 238, 260 and 261; Mathematics[10] 107 and 108; minimum one year of physics[11] are required of students who major in chemistry.

Students entering the University with intention of studying chemistry as a profession leading to a degree in the College of Arts and Sciences, with major in chemistry, should take Mathematics 3 and Chemistry 1 during the first semester of their first year.

A deposit is required of all students who take laboratory courses.

BACHELOR OF ARTS IN CHEMISTRY

The Bachelor of Arts Degree is recommended for those students who are interested in a scientific program which offers opportunity for a considerable body of electives in the non-science fields. This program is recommended for those students who plan to teach in the secondary school. For these students careful planning with the adviser must be done early in the program so that the teacher certification requirements may be met. The requirements are listed below and total 128 credit hours.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 1	4	Chemistry 2	4	Chemistry 5	4	Chemistry 6	5
English 1	4	English 2	3	Math. 5	4	Math. 107	4
Math. 3	3	Math. 4	3	Foreign language	3	Foreign language	3
Foreign language	3	Foreign language	3	Group 2 Electives	3	Group 2 Electives	3
Phys. Educ. 1	1	Phys. Educ. 2	1	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2				
	16		16		16		17

[10]If mathematics is elected as a minor, an additional 3-hour course beyond calculus (usually Differential Equations) is required.

[11]Physics 111 and 112 may count as a minor. It Physics 1, 2, 3, and 4 are offered, nine additional upper-division hours in physics are required to satisfy the minor.

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 233	5	Chemistry 238	5
Math. 108	4	Physics 112	5
Group 1 elect.	3-4	Group 1 elect.	3-4
Physics 111	5	Speech 11	3
	17 or 18		16 or 17

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 260	5	Chemistry 261	5
Chemistry Elect.	2	Chemistry Elect.	2
Other Electives	8	Other electives	8
	15		15

BACHELOR OF SCIENCE IN CHEMISTRY

The Bachelor of Science degree is designed for those students who desire to qualify for professional positions in industry and government services, as well as those who plan to do graduate work in chemistry. Requirements for the Bachelor of Science Degree are listed below. Electives should be chosen so as to satisfy the distribution of electives required for the A.B. degree. One hundred thirty six credit hours are required.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 1	4	Chemistry 2	4
English 1	3	English 2	3
Foreign language	3	Math 4	3
Math 3	3	Foreign language	3
Phys. Ed. 1	1	Electives	2
Mil. or Air Sci. 1	2	Phys. Ed. 2	1
		Mil. or Air Sci. 2	2
	16		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 5	4	Chemistry 6	5
Math 5	4	Math. 107	4
Foreign lang.*	3	Foreign language	3
Other Electives	4	Other Electives	4
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	17		18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 233	5	Chemistry 238	5
Math. 108	4	Physics 112	5
Physics 111	5	Chemistry Elect.	2
Chem. Eng. 200	2	Other Electives	4
Chemistry Elect.	2		
	18		16

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 260	5	Chemistry 261	5
Chem. Eng. 234	2	Chem. Eng. 235	2
Chemistry Elect.	4	Chem. Elect.	4
Other Electives	6	Other Electives	5
	17		16

*Six hours of a second foreign language in addition to the language requirements for the A.B. degree are necessary for graduation.

COURSES OF INSTRUCTION[13]

Lower Division

1. INORGANIC CHEMISTRY. I, II. 4 hr. Required of all students whose work calls for the first year of chemistry. Elective for others. Primarily for freshmen. Staff

2. INORGANIC CHEMISTRY. I, II. 4 hr. PR: Chem. 1. Required of all students whose work calls for first year of chemistry. Elective for others. Primarily for freshmen. Staff

5 or 105. QUALITATIVE ANALYSIS. I. 4 hr. PR: Chem. 2. Required of students whose major is chemistry, and pharmacy students. 2 lect. and 2 3-hour lab. periods. Mr. Wilhelm and Miss Paul

6 or 106. QUANTITATIVE ANALYSIS. II. 4-5 hr. PR: Chem. 2. Chemistry 5 should precede this course wherever possible. Required of students whose major is chemistry. Mr. Gibson and Mr. Humphrey

[12]Chemistry 1 and 2 are prerequisite to all other courses in chemistry. Three-year and four-year premedical students are referred to page 125 for outline of required courses. For courses in biochemistry and pharmaceutical chemistry see those sections.

10. Quantitative Analysis. I. 2 hr. PR: Chem. 2. Primarily for engineering students. Mr. Humphrey and Mr. Wilhelm

15. or 115. Quantative Analysis. I, II. 3 hr. PR: Chem. 2. For premedical, chemical engineering and pharmacy students. Mr. Humphrey and Mr. Wilhelm

31. or 131. Organic Chemistry. I. 4 hr. PR: Chem. 2. For students in agriculture and home economics. Mr. Muth

63. or 163. Physical Chemistry. I. 4 hr. PR: Chem. 2. Required of premedical students and recommended for geology majors and non-chemistry majors. Mr. G. A. Hall

Upper Division

111. Synthetic Inorganic Chemistry. I. 4 hr. PR: Chemistry 6 or 106. Mr. Bettinger

141, 143. Assigned Topics. I. 1-5 hr. PR: Approval of instructor. Staff

142, 144. Assigned Topics. II. 1-5 hr. PR: Approval of instructor. Staff

162. The Chemistry of Colloids. II. 4 hr. PR: Chemistry 115 or equivalent. Mr. G. A. Hall

170. Glass Working for the Chemical Laboratory. II. 2 hr. PR: Chemistry major or approval of instructor. Mr. Iffland

208. Quantitative Analysis. I. 3 hr. PR: Chemistry 6, (5 hr.), Physics 2 or 112 and Mathematics 5. Mr. Gibson

214. Qualitative Organic Analysis. I. 3 hr. PR: Chem. 238. Mr. Muth

215. Quantitative Organic Analysis. I, II. 3 hr. PR: Chem. 238. Mr. Muth

233. Organic Chemistry. I, II. 4-5 hr. PR: Chemistry 6 or 15. Required of students who major in chemistry, pre-med., chemical and mining engineering. Mr. Lazzell and Mr. Iffland

238. Organic Chemistry. I, II. 4-5 hr. PR: Chem. 233. Mr. Lazzell and Mr. Iffland

247. Stereochemistry. I. 2 hr. Open to seniors. PR: Chem. 238. Mr. Iffland

260. Physical Chemistry. I. 4-5 hr. PR: Chemistry 233, Physics 2 or 112 and Mathematics 108. Required of chemistry majors and chemical engineering students, the latter for 4 hours credit. Mr. Collett and Mr. G. A. Hall

261. Physical Chemistry. II. 4-5 hr. PR: Chemistry 260. Required of chemical engineering students and chemistry majors. Mr. Collett and Mr. G. A. Hall

273. Chemical Literature. I, II. 2 hr. PR: Chem. 6 and 238. Open to seniors. Mr. Hickman

274. History of Chemistry. II. 2 hr. PR: Chem. 6 or equivalent, and organic chemistry. Miss Paul

275. Modern Chemical Theories and Practices. S. 2 hr. PR: 16 hours of chemistry. Primarily a refresher course for high school teachers. Not for graduate chemistry majors. Staff

277. Synthetic Drugs. I or II. 2 hr. PR: Chemistry 238 or equivalent. Mr. Muth

Graduate Division

301. Advanced Inorganic Chemistry. I. 3 hr. PR: Chem. 261. Mr. Hickman

302. Advanced Inorganic Chemistry. II. 3 hr. PR: Chem. 301. Mr. Hickman

317. Modern Plastics. I or II. 3 hr. Mr. Muth

343. Advanced Organic Chemistry. I. 4 hr. PR: Chemistry 238 or equivalent. Mr. Iffland and Mr. Lazzell

345. Theories of Organic Chemistry. II. 2 hr. PR: Chemistry 343. Mr. Iffland

350. Heterocyclic Chemistry. II. 2 hr. PR: Chem. 343. Mr. Muth

367. Advanced Physical Chemistry. II. 2-4 hr. PR: Chemistry 261. Mr. J. L. Hall

368. Advanced Physical Chemistry. I. 2 hr. PR: Chem. 367. Mr. J. L. Hall

369. Chemical Kinetics. I or II. 2 hr. PR: Chem. 261. Mr. G. A. Hall

380. Electrochemistry. I or II. 3 hr. PR: Chemistry 238 and 261. Mr. Collett

383. Advanced Quantitative Analysis. I or II. 3 hr. PR: Chem. 280. 238, 261. Mr. Gibson

388. Valence and Molecular Structure.[13] I or II. 2 hr. PR: Mathematics 108, Physics 112, Chemistry 261. Mr. Gibson

389. Chemical Thermodynamics.[14] I. 2 hr. PR: Chemistry 261 and Mathematics 108. Mr. Gibson

390. Chemical Thermodynamics.[14] II. 2 hr. Continuation of Chem. 389. Mr. Gibson

391, 392. Journal Meeting and Seminar. I, II. 1 hr. per semester. Required of students working for graduate degrees with major in chemistry. Recommended as a minor for students from other departments. Staff

395, 396. Special Topics. I, II. 1-3 hr. per semester. Chemistry of the carbohydrates, organic nitrogen compounds, the phase rule, dyes and dye intermediates, food analysis, chemical microscopy, and crystallography are suggested topics. Staff

397, 398, 399. Research. I, II. 1-10 hr. Six hours required for the Master's Degree. Staff

CLASSICS

Professor Brouzas

The Department of Classics offers courses in the Greek and Latin languages and in classical civilization. Courses in the department are intended not only to give students a thorough knowledge of the Greek and Latin languages and literatures but also to acquaint them with the classical culture in general.

Courses suggested are for Classics majors with English as a sceond teaching subject. Those wishing to offer a modern language as a second teaching subject may substitute the modern language for the English beginning with the Sophomore year; those who wish to offer Social Studies may substitute History, etc. for the same English.

Women can qualify for a teacher's certificate and graduate with 129 hours; men with 135 hours.

Students who do not plan to teach can substitute electives for the Education courses and graduate with 128 hours, of regular requirement of the College of Arts and Sciences.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	History 2 or 52	3	History 2 or 53	3
Latin 3	3	Latin 4	3	Latin 12	3	Latin 22	3
Laboratory Sci.	4	Laboratory Sci.	4	Social Science 1	4	Social Science	4
Humanities 1	4	Humanities 2	4	Education 105	3	Education 106	3
Phys. Educ.	1	Phys. Educ.	1	Art Appreciation 30	2	Music Appreciation	2
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Phys. Educ.	1	Phys. Educ.	1
				Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	16-17		16-17		16-17		16-17

[13]Offered in alternate years, available in 1956-57.
[14]Offered in alternate years, not available in 1956-57.

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 18	3	English Lit.	3	English	6	English	6
Latin	6	Latin	6	Latin	6	Latin	3
Education	3	Education	2	Education	3	Education	6
Greek 1	3	Greek 2	3	Philosophy	3		
Health Educ.	2	Lib. Science					
	—	or Speech	3		—		—
	17		17		18		15

Courses of Instruction

Lower Division

1. Elementary Latin. I. 3 hr. Elements of the Latin language. Completion of a standard beginner's book.

2. Elementary Latin. II. 3 hr. Continuation of Latin 1, consisting of study of a standard second-year book.

3. Intermediate Latin. I. 3 hr. PR: Latin 2 or two units of high-school Latin. Selections from Caesar, Aulus Gellius, Nepos, and from other authors of comparable ease, designed to prepare students to read orations of Cicero and other Latin of similar difficulty.

4. Cicero's Orations. II. 3 hr. PR. Latin 3, or 2 units of high-school Latin.

5. Latin for Law Students: Selections from Legal Latin and the Inststutes of Justinian. II. 3 hr. PR: Latin 3 or 2 units of high-school Latin.

12. Selections from Roman Prose. I. 3 hr. PR: Latin 4 and 6 or equivalent. Cato to the end of the Silver Latin Period.

21. Roman Letterwriting. I. 3 hr. PR: Latin 4 and 12, or 4 units of high-school Latin.

22. Selections from Roman Poetry. II. 3 hr. PR: Latin 4 and 12, or equivalent. Selection from the elegiac, lyric, and iambic poets and from Martial's epigrams.

Upper Division

201. The Story and Novel. I. 3 hr. PR: Latin 12 and 22, or equivalent. The origin of the story and novel is traced from Homer to the medieval Greek and Latin romance writers. Selections from Petronius, the Cena Trimalchionis, and from Apuleius, Cupid and Psyche.

202. Drama. II. 3 hr. PR: Latin 12 and 22, or equivalent. A brief history of the origin and development of Greek and Roman drama. The Menaechmi of Plautus, the Andria of Terence, and the Medea of Seneca are read in Latin.

203. Oratory. II. 3 hr. PR: Latin 12 and 22, or equivalent. A bird's eye view of Greek and Roman oratory is given and part of the first book of Cicero's De-Oratore; selections from Quintilian's Institutes and from Tacitus' Dialogus de Oratoribus are read in Latin.

227. Vulgar Latin—Prose and Verse. I. 3 hr. PR: Latin 12 and 22, or equivalent. Selections from Latin inscriptions with a view to studying the development of the Latin language from its earliest times, also selections from medieval and later Latin writers are read which show the passing of the Latin language into the Romance languages.

231. Satire. II. 3 hr. PR: Latin 12 and 22, or equivalent. Greek satirical writings and the origin of the Roman satire. Selections in Latin from the Satires and Epistles of Horace, and from the Satires of Persius and Juvenal.

234. History. I. 3 hr. PR. Latin 12 and 22, or equivalent. The origin and development of Roman historiography and its Greek antecedents. Selections in Latin from Livy's History, from Tactius' Agricola, and from Suetonius' Julius Caesar.

235. Epic. I. 3 hr. PR: Latin 12 and 22, or equivalent. The origin and development of the Greek and Roman epic. Selections from Vergil's Aeneid, from Lucretius' De Rerum Natura, and from the earlier and later epic poets in Latin.

236. Philosophy. II. 3 hr. PR: Latin 12 and 22, or equivalent. The origin and development of Greek Philosophy and its influence upon Roman philosophy. Selections from Cicero's Tusculan Disputations in the immortality of the soul and from Seneca's and Epistles in Latin.

Graduate Division

381, 382. Seminar. Introduction to Research. I, II. 3 hr. each semester. PR: at least three courses of upper division Latin, or equivalent. Methods of textual, literary, and historical criticism. Evaluation of text, sources, and background of an author, whose principal work is studied and analyzed.

383, 384. Thesis. I, II. 3 hr. each semester. Six hours of credit are allowed for a thesis, required for the degree of Master of Arts in the department. A controversial subject, or a little explored subject is usually assigned, intended not only to acquaint students with the subject-matter and to develop the various sides of research method but also to produce a creditable piece of research.

GREEK

Lower Division

1. Elementary Greek. I. 3 hr. A course in the elements of the Greek language.

2. Selections from Greek Literature (Prose). II. 3 hr.

3. Selections from Greek Literature (Poetry). II. 3 hr.

4. Selections from Hellenistic and Biblical Greek Literature. I. 3 hr.

5. Selections from Medieval and Modern Greek Literature. II. 3 hr.

ECONOMICS

Professors Coleman, Fishman, Roberts, and Tower; Associate Professors Campbell, Somers, and Thompson; Assistant Professors Hanczaryk; Instructors Newhouse and Wade.

In September, 1952, the Department of Economics and Business Administration in the College of Arts and Sciences was replaced by the College of Commerce. Since the establishment of the College of Commerce, the new college has granted the B.S. degree in Economics, while the College of Arts and Sciences has continued to grant the A.B. degree in this field.

A brief explanation of the differences between the B.S. and A.B. programs in Economics may be helpful to prospective Economics majors. The course of study leading to the B.S. degree is aimed primarily at preparing the student for a career in business. Consequently, the student selecting this program is required to complete courses in accounting, business writing and business finance, and must take approximately half of his elective courses with the College of Commerce. The program leading to the A.B. degree is designed for students who wish to combine fundamental training in Economics with broad, general training in other fields. Thirty or more credit hours, from a total of 128 required for graduation, are available for elective subjects. There are two principal requirements which apply to the A.B. program in Economics, but do not apply to the B.S. program. These are the requirements that the student must complete twelve hours in a foreign language and nine upper-division hours in a minor field other than Economics.

A candidate for the A.B. degree with a major in Economics must complete a minimum of 128 semester hours for graduation. He must also complete at least 24 semester hours in upper-division Economics courses. A minimum of 58 semester hours must be completed at the upper-division level. Of these, not less than 9 upper-division hours must be earned in a minor field approved by the candidate's adviser.

Lower-Division Program. The curriculum of the lower division is designed to provide a background for the study of Economics. The following courses are required and students are expected to complete them within the first two years of residence at the University.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Economics 1	3	Economics 2	3
Foreign Lang.[15]	3	Foreign Lang.[15]	3	Foreign Lang.	3	Foreign Lang.	3
Group 1 elect.	3-4	Group 1 elect.	3-4	Pol. Sci. 2 or		Pol. Sci. 120 or	
Laboratory Sci.[16]	4	Laboratory Sci.[16]	4	History 52	3	History 53	3
Physical Educ.	1	Physical Educ.	1	Elective	3	Public Speaking	
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Mathematics 8	3	11	3
				Mil. or Air Sci. 3	2	Elective	3
						Mil. or Air Sci. 4	2
	16 or 17		16 or 17		17		17

Upper-Division Program. The following courses are required of all Economics majors:

Econ. 111 Money and Banking

Econ. 125 Statistics

Econ. 115 Labor Problems

Econ. 221 Economic Theory

Econ. 222 History of Economic Thought

In addition to the above courses, candidates must complete a minimum of 9 upper-division hours in Economics.

Courses of Instruction

Lower Division

1. Principles of Economics. I, II. 3 hr. Organization and principles of economic activity. Staff
2. Principles of Economics. I, II. 2 hr. Economics 1 and 2 prerequisite to all upper-division courses. Staff

Upper Division

111. Money and Banking. I, II, 3 hr. Our system of monetary and banking arrangements, viewed in relation to functioning of the economic system as a whole. Mr. Fishman

115. Labor Problems. I, II. 3 hr. A survey of labor economics and human relations in industry, including the interaction of economic forces, union policies, personnel practices and labor law. Mr. Somers

116. History of Labor in the United States. II. 3 hr. PR: Economics 115 or consent of instructor. Origins and development of labor organizations with particular attention to those in the U.S. Staff

119. Economics of Consumption. I. 3 hr. Economic and social problems involved in consumer choices. Staff

[15]See language requirements for College of Arts and Sciences.

[16]A laboratory science may be chosen from biology, chemistry, physics botany, zoology, psychology, geology, or physical science.

125. Statistics. I, II. 2 hr. PR: Math. 2, 3, or 8. Methods of collecting, presenting, analyzing, and interpreting business data, with special emphasis on the analysis of frequency distribution, trend fitting,, seasonal corrections forecasting, and index numbers. Mr. Hanczaryk

205. Current Economic Problems. S. 3 hr. PR: Economics 1 and 2 or consent of instructor. For students in Education only. A course designed to acquaint public school teachers with reliable source material in economics and to instruct them in studying current economic problems. Mr. Campbell

209. Problems in Economics. I, II. 1-3 hr. Staff

210. Comparative Economic Systems. II. 3 hr. Structure and processes of existing economic systems throughout the world including review of basic principles of free enterprise, socialistic, communistic, and fascistic societies. Comprehensive analysis based on current and recent experiments in these economies. Staff

217. Trade Unionism. I. 3 hr. PR: Economics 115. An analysis of the structure, government, attitudes, and policies of organized labor; the economic and political implications of union policy. Mr. Somers

218. Collective Bargaining and Labor Relations. II. 3 hr. PR: Economics 115 or consent of instructor. Theory and practice of collective bargaining; causes of industrial peace and conflict; government regulation of labor relations. Mr. Somers

221. Economic Theory. I, II. 3 hr. Training and experience in use of analytical methods and techniques needed in dealing with fundamental economic problems. Staff

222. History of Economic Thought. I. 3 hr. PR: Economics 221. Economic ideas in perspective of historic development. Mr. Thompson

225. Transportation. I. 3 hr. Development of regulation; economics of valuation and rate making. Mr. Campbell

235. Business Cycles. I, II. 3 hr. PR: Economics 125, or consent of instructor. Industrial fluctuations; causes and possible remedies. Mr. Fishman

241. Public Finance. II. 3 hr. Fiscal organization and administration of modern governments; public expeditures; governmental revenues; problems of public debt. Mr. Tower

242. Taxation. II. 3 hr. PR: Economics 241 or consent of instructor. Comparative study of taxes and tax systems. Particular emphasis upon tax structures of Federal government and State of West Virginia. Mr. Tower

245. Government and Business. II. 3 hr. Government in its role of adviser and umpire; anaylsis of governmental policies and practices affecting business. Mr. Fishman

250. International Trade. II. 3 hr. PR: Consent of instructor. Development of trade among nations; theories of trade; policies; physical factors; trends; and barriers. Mr. Campbell

256. Advanced Statistics. II. 3 hr. PR: Economics 125 or its equivalent. Correlation, index numbers, time series analysis, statistical inference, and population forecasting. Mr. Hanczaryk

310. Contemporary Economic Theory. II. 3 hr. PR: Economics 221. Recent developments in economic theory as those relating to imperfect competition, monetary problems, and collectivist economy. Staff

315. Bibliography and Research. I. 2 hr. Sources of information; research procedures; analysis and interpretation of data; preparation of manuscripts. Mr. Coleman

319. Seminar in Economics. II. 2 hr. Staff

331. 332. Thesis. I, II. 2 or 3 hr. Staff

ENGLISH LANGUAGE AND LITERATURE

Professors Brawner, Bishop, Crocker, and Draper; Associate Professors Foster, Gainer, and Pettigrew; Assistant Professors Mockler, Page, and Sayre; Instructors Board, Buswell, Craven, Coulter, Dawson, Dowdell, Futrell, Hemstead, Hicks, Holden, Howard, Huzzey, Johnson, Johnston, Keefer, Kirtley, Law, Leonian, Lyttle, Marks, Spangler, Stasny, Sweeney, and Wasson.

A student who is admitted to the upper-division of the University may be admitted to the Department of English as a major on consultation with the departmental adviser. No absolute prerequisites except freshman English and other lower-division Arts and Sciences requirements, are stated as conditions of admission; but it is desired that students who anticipate becoming English majors should be guided by the suggested lower-division programs listed below. If a student on entrance into the upper-division presents deficiencies in English credits, he may expect to take more than the minimum number of English courses normally required during his junior and senior years.

Advisers of upper-division students who are not English majors may schedule them for upper-division courses in English without regard to prerequisites, according to the advisers' discretion.

Teacher Certificate for English Majors

A candidate for the A.B. degree in English may combine the Arts and Sciences requirements with the requirements for teacher certification in English and one other teaching field. Such a student will combine the requirements of the University in general, of the College of Arts and Sciences, and of the Department of English with (1) the basic two-year curriculum for all teacher trainees, (2) the 20-hour requirement in Education courses, and (3) the specific requirements for the English teaching field and one other field. Teaching fields customarily combined with English are Speech, Library Science, Art, French, Spanish, Latin, and Social Studies. If Social Studies is chosen, the Arts and Sciences minor may be History, Political Science, Sociology, or Economics.

A student who wishes to qualify for a teaching certificate and for the A.B. degree should begin by combining the lower-division requirements in Arts and Sciences with the two-year curriculum required of all candidates for teacher certification. He should also consult the University bulletin entitled "Teacher Training Programs" (May, 1954), and make as much progress as possible toward fulfilling courses of study prescribed for his teaching fields. By carefully planning his program each year, the student can complete all requirements within four years. Copies of a mimeographed summary showing how English majors may combine these various sets of requirements are available at the English office.

Choice of Two Majors in English

The prescribed upper-division program for majors in English requires the student to complete courses in both English literature and American literature and allows him to determine the relative emphasis he will give to each. Three upper-division courses (Group "A") are required of all majors. Credit for this group is either 8 or 9 hours. An additional twelve hours is chosen from groups "B" and "C" according to the student's desire to emphasize English literature or American literature. The plan is shown as follows:

GROUP A (8-9 hr., required of all):

1. English 142. Shakespeare. 3 hr.
2. English 234. Chaucer. 3 hr.
3. English 230. History of the English Language, 3 hr.; or English 127. The American Language. 2 hr.

Choice of twelve additional hours of upper-division work, as follows:

Emphasis on English Literature: 9 hr. from Group B, 3 hr. from Group C.
Emphasis on American Literature: 3 hr. from Group B, 9 hr. from Group C.

GROUP B:

1. English 138. English Literature, 1660-1744. 3 hr.
2. English 139. English Literature. 1744-1798. 3 hr.
3. English 140. Elizabethan Poetry and Prose. 3 hr.
4. English 141. Literature of the 17th Century. 3 hr.
5. English 249. The Romantic Movement. 3 hr.
6. English 257. Victorian Poetry. 3 hr.
7. English 258. Victorian Prose. 3 hr.

GROUP C:

1. English 166. American Fiction. 3 hr.
2. English 222. American Biography. 3 hr.
3. English 239. Southern Writers. 3 hr.
4. English 250. American Romanticism. 3 hr.
5. English 270. American Poetry. 3 hr.

Suggested Semester Programs

Lower Division

The following lower-division course programs are suggested for pre-English majors. The "electives" refer to groups 1, 2, 3, 4, and 5 of "Distribution Requirements" in Arts and Sciences, and the numbers refer to these groups. The footnotes indicate choices that should be made by teacher trainees in order to combine these requirements with those of the teacher-training curriculum.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	English 3 or 5	3	English 4 or 6	3
English 3 or 5	3	English 4 or 6	3	Foreign Lang.†	3	Foreign Lang.†	3
Laboratory Sci.*	4	Laboratory Sci*	4	Electives,		Electives,	
Foreign Lang.	3	Foreign Lang.	3	Group 1**	3-4	Group 1**	3-4
Phys. Educ.	1	Phys. Educ.	1	Electives,		Electives,	
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Group 2**	3-4	Group 2**	3-4
				Electives,		Electives,	
				Group 4†	3	Group 5†	3
				Phys. Educ.	1	Mil. or Air Sci. 4	2
				Mil. or Air Sci. 3	2	Phys. Educ.	1
	14-16*		14-16*		16-18		16-18

For those preparing for teacher certification, the following notes apply:

*(a)Students should choose the general course in Biology or in Physical Science. (b) Music 10 or Art 30 are recommended to complete a schedule of 16 hours for women students.

†(a)Speech should be chosen from Group 4; suggested courses 3, 6, 11, and 29. (b) It the foreign language requirement has been met, English 18 or 21 should be scheduled. If a language must be scheduled, the student may do well to take English 18 or 21 during his second year and postpone one of the Arts and Sciences group electives until his junior year. (c) Geography should be selected from Group 5 if the student expects to make Social Studies his second teaching field.

**Men should select no more than one of the four-hour courses so as not to exceed a total load of 18 hours. Since Social Science is required of all teachers, it should be chosen to satisfy Group 2.

Upper Division

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 142	3	Upper-division English (from group B or C, above)	3	English 234	3	English 230	3
Upper-division English (from group B or C above)	3	Minor Subject	3	English (from B above)	3	English (from B above)	3
Minor Subject	3	Electives*	6-9	Minor Subject	3	Minor Subject	3
Electives*	6-9			Electives*	6-9	Electives*	6-9
	15-18		15-18		15-18		15-18

*For those preparing for teacher certification, the hours allowed for "electives" will be devoted to satisfying the requirements for certification. The requirements that must be satisfied are as follows:

(a) Any courses in the two-year general program for teachers that may not have been taken during the student's lower-division years. Check especially for English 18 or 21; History 1 and 2 or Humanities 1 and 2; Social Science 1 and 2; Music 10, Art 30; Health Ed. 101.
(b) Certain specific requirements for the English first teaching field, if not already met: Speech 3, 6, 11, or 29; 5 to 6 hrs. additional, chosen from Journalism 215 (2 hr.), Library Science 1 or 101, (3 hr.), Speech 162 (3 hr.)
(c) Requirements of a second teaching field, insofar as they do not coincide with the student's Arts and Sciences minor.
(d) Twenty hours of Education, including practice teaching.

Courses of Instruction

Lower Division

O. English Composition. I, II. 3 hr. Required of all students who fail to qualify for English 1 on the Freshman English placement test. Staff

1. Composition and Rhetoric. I, II. 3 hr. Required of all candidates for the Bachelor's Degree in all colleges. Advanced sections are provided for students who make exceptionally high grades on the Freshman English placement test. Staff

2. Composition and Rhetoric. I, II. 3 hr. Continuation of English 1. Required of all candidates for the Bachelor's Degree in all colleges. Advanced sections are provided for students who make exceptionally high grades on the Freshman English placement test. Staff

3. Survey: English Literature. I, II. 3 hr. English authors from Bewulf to Burns and readings from their works. Upperclassmen may substitute English 163 for this course. Staff

4. Survey: English Literature. I, II. 3 hr. English authors from Robert Burns to the present and readings from their works. Upperclassmen may substitute English 164 for this course. Staff

5. American Literature. I, II. 3 hr. American authors with readings from their works to 1870. Staff

6. American Literature. I, II. 3 hr. American poetry and prose from 1870 to the present. Continuation of English 5. Staff

9. Composition and Reading (for pre-Law students) I. 3 hr. Expository writing and readings of literary types in an anthology of poetry and prose. Staff

10. Composition and Reading. (For pre-Law students). II. 3 hr. Argumentation and the logical basis for argumentation, together with readings in anthology. Staff

13. Expository Writing. I, II. 2 hr. PR: English 1 and 2. Extensive practice in the various types of expository writing, together with the study of techniques. Staff

14. Argumentative Writing. I, II. 2 hr. PR: English 1 and 2. Logical briefing as applied to argumentative writing and thinking. Staff

16. Creative Writing I. Description. I, II. 3 hr. Exercises in the descriptive process; the practical and aesthetic values of description. Staff

17. Creative Writing II. Narration. I, II. 3 hr. The elements of narration; point of view, motivation, and the presentation of character in short narratives; individual assignments and conferences. Staff

18. Advanced English Composition (Written and Spoken). I, II. 3 hr. Practice in the organization of thought and in the correct and effective use of the language in writing and speaking, with emphasis on the various types and techniques of exposition. Staff

21. The Use of Language. II. 3 hr. PR: English 1 and 2. Practice in the communication skills of a level more advanced than freshman study. Study of the nature of language and its relation to meaning in thought and action. Staff

23. Business English. I, II. 3 hr. For majors in Economics and Business Administration. The writing of reports; assembling and analysis of data; business correspondence. Staff

25. Introduction to Literature (Poetry). I, II. 2 hr. No Prerequisite. A nontechnical approach to poems selected for their intrinsic interest and ease of comprehension. Designed to instruct and give pleasure. Staff

26. Introduction to Literature (Fiction). I, II. 2 hr. No Prerequisite. A companion course to English 25 and English 27 in the reading of works of fiction selected for their interest and significance to the general reader. Emphasis on appreciation and enjoyment. Staff

27. Introduction to Literature (Drama). I, II. 2 hr. No Prerequisite. How to read, enjoy, and judge significant plays. Designed for the general student, not the specialist, with a view to deveolping a lasting interest in dramatic literature. Staff

Upper Division

115. Creative Writing III: Narration (Short Story). I, II. 2 hr. Purpose and pattern of the modern short story; study of examples in current periodicals; special assignments and conferences with individual students on a minimum number of short stories. Staff

125. Advanced Composition. I. 2 hr. Factual writing of articles on subjects of current interest. Mr. Gainer

126. Advanced Composition. I, II. 3 hr. Technical forms of writing; designed particularly for students in science and engineering. Mrs. Buswell

127. The American Language. I. 2 hr. Words and their ways in American speech. Mr. Mockler

129. Words. I, II. 2 hr. A practical course in vocabulary building with attention to derivation, history, and meanings of words. Miss Sayre

138. English Literature, 1660-1744. I. 3 hr. A study of the literature from the Restoration to the death of Pope, exclusive of the drama. Mr. Crocker

139. English Literature, 1744-1798. I. 3 hr. A study of the literature from the death of Pope to the publication of Wordworth's *Lyrical Ballads,* exclusive of the drama. Mr. Crocker

140. Elizabethan Poetry and Prose. I. 3 hr. A study of the Renaissance in England as manifested in the great variety of nondramatic literary works of the sixteenth century, with emphasis on the major writers of the reign of Elizabeth. Mr. Draper and Mr. Foster

141. Literature of 17th Century. II. 3 hr. A consideration of the major poets and prose writers of the 17th century, with the exception of dramatic writings. Mr. Draper and Mr. Foster

142. Shakespeare. I, II. 3 hr. A study of eleven or twelve of Shakespeare's most important plays. Mr. Brawner, Mr. Draper, and Miss Pettigrew

160. Contemporary Literature. I. 2 hr. A study of modern British and American poets and prose writers—including novelists, short-story writers, dramatists, and essayists. Primary emphisis on the works. Including Frost, Yeats, Galsworthy, Eliot, Pound, Jeffers, Cather, Anderson, Fitzgerald, O'Neill, D. H. Lawrence, Huxley, Joyce, and Forster. Chronology is roughly from 1900 to 1925. Mr. Foster

161. Contemporary Literature. II. 2 hr. A continuation of the preceding course from approximately 1925 to the present time. Including Sanburg, Lindsay, Hart, Crane, Wolfe, Faulkner, Evelyn Waugh, Farrell, Steinbeck, Auden, Graham Greene, Burke Dylan Thomas, Spender, Robert Lowell, and Koestler. Mr. Foster

163. English Literature. I, II. 3 hr. Survey: English Literature from the beginning to 1800, with special reference to the life; personality, ideas and influence of great English authors. May be substituted for English 3 but may not be elected by students who already have credit for English 3. Staff

164. English Literature. I, II. 3 hr. Continuation of English 163 from 1800 to the present. May be substituted for English 4 but may not be elected by students who already have credit for English 4. Staff

166. American Fiction. I. 3 hr. The reading of ten or more of the most important American novels from Hawthorne to the present day, each considered as a work of art reflecting a significant view of life. Lectures on the works of principal authors, with class discussion of particular books. Mr. Brawner

173. Poetry. I, II. 2 hr. The appreciation and enjoyment of poems through critical and analytical reading. Studies in the various types of poetry, and of the language, imagery, and techniques of poetic expression. Mr. Brawner

175. The Short Story. I. 2 hr. A story of the historical development of the short story and the schools into which the work of short story writers is divided. Mr. Bishop

180. Bible Literature: Old Testament and Apocrypha. I. 3 hr. The contents of the Old Testament, its literary structure, and its effect upon our literature and thought. Mr. Marks

181. Bible Literature: New Testament. II. 3 hr. The contents of the New Testament, its literary structure, and its effect upon our literature and thought. Mr. Marks

182. Masterpieces of English Literature. II. 3 hr. Intensive study of significant literary works. Mr. Crocker

Upper-Division and Graduate Courses

211. Problems of Communication. I. 3 hr. Survey of the nature of communication, semantics in clarifying interpersonal communication, and responsibilities and social effects of mass communication. Staff

220. General Sematics. II. 3 hr. PR: Basic course in at least four of the following fields: English, foreign language, physical science, biological science, history, psychology, social science, or philosophy and consent of instructor. The scientific method and language, the relation between symbols and reality, the effect of symbols on personal and social conflicts, practical devices of written and spoken communication—with continued emphasis on practical applications in various fields. Staff

222. Modern American Biography. I. 3 hr. The best biographies about America's greatest. Miss Page

223. Masterpieces of Biography. II. 3 hr. Several famous biographies of the Western world. Miss Page

*224. Literary Criticism. II. 3 hr. Deals with history of literary criticism from Aristotle to modern times. Mr. Crocker

225. Recent Literary Criticism. I, II. 3 hr. A brief survey of the theories and essays of the four major schools of modern criticism and an application of these theories to a novel, a play, and to selected poems and short stories. Mr. Foster

226. Early Hebrew Culture and Literature. I. 3 hr. PR: Twelve hours of college English. A study of the Old Testament, Apocryphal writings, and related literary traditions. For teachers and other mature students. Not for graduate majors in English. Mr. Marks

227. Early Christian Culture and Literature. II. 3 hr. PR: Twelve hours of college English. The New Testament, Christian apocryphal writings, and related bodies of literature and thought. For teachers and other mature students. Not for graduate majors in English. Mr. Marks

228. Advanced Grammar. I, II. 3 hr. A course in descriptive grammar, the parts of speech, constructions, and methods of diagramming. Mr. Bishop

230. History of the English Language. II. 3 hr. A study of the nature of the language; questions or origins, language families, development relationships of English as one of the Indo-European languages. Mr. Mockler

*231. Old English. I. 3 hr. A study of Anglo-Saxon grammar, with selected readings from the literature of the period. Mr. Mockler

*232. Beowulf. II. 3 hr. PR: English 231. Continuation of the study of Old English; critical reading of the poem *Beowulf*. Mr. Mockler

234. Chaucer. I. 3 hr. A study of Chaucer's *Canterbury Tales* and *Troilus and Criseyde*. In addition to an understanding and appreciation of Chaucer's literary work, the student is expected to acquire an adequate knowledge of Chaucer's language. Mr. Mockler

235. Shakespeare. I. 3 hr. A course for undergraduates and graduates in the detailed study of three of Shakespeare's major plays. Mr. Draper

239. Southern Writers. II. 3 hr. Examination of twentieth-century southern essayists, poets, short story writers, and novelists in relation to the ideological background. Mr. Foster

242. Literature for Teachers. S. 3 hr. Study and appreciation of selected works of American authors, with special reference to the high-school curriculum. Given usually in the Summer Session. Staff

243. Literature for Teachers. S. 3 hr. Study and appreciation of selected works of English authors. Recommended for teachers of high-school English. Given usually in the Summer Session. Staff

*244. Literature of the Sixteenth Century. I. 3 hr. Renaissance in England as reflected in literature with some consideration of the fine arts and other aspects of culture. Mr. Draper

*245. Literature of the Seventeenth Century. II. 3 hr. The struggle between Cavalier and Puritan as reflected in the literature of the age. Mr. Draper

247. Literature of the Eighteenth Century. I. 3 hr. The culture-history of England 1700-1750, as expressed in social, economic, political, and religious movements, and as reflected in literature Mr. Draper

248. Literature of the Eighteenth Century. II. 3 hr. A combination of English 247, covering the period from 1750-1800. Mr. Draper

249. The Romantic Movement. I. 3 hr. The works of Wordsworth, Coleridge, and Keats, together with an introduction to works of scholarship in the field of English Romanticism. Mr. Brawner

250. American Romanticism. II. 3 hr. The writings of Ralph Waldo Emerson, Henry David Thoreau, and Nathaniel Hawthorne. A study of the relations of these men to the history of their own time, and of their contributions to American thought and art. Mr. Brawner

*252. Modern English Literature, 1881-1918. I. 3 hr. A consideration of the revolt against mechanism, the new romanticism, doctrines of action, and contemporary tendencies. Mr. Crocker

*253. Pre-Shakespearian Drama. I. 3 hr. A study of the medieval drama from its beginning to the middle of the sixteenth century. Mr. Crocker

*254. Elizabethan Drama. II. 3 hr. A study of the great dramatists of the Elizabethan period, exclusive of Shakespeare. Mr. Crocker

*255. Restoration and Eighteenth Century Drama. I. 3 hr. A study of persistent forms and new developments in the drama of the period. Mr. Crocker

256. Modern Drama. II. 3 hr. A study of world drama from Ibsen to the present day, with particular reference to -isms and ideas. Mr. Crocker

257. Victorian Poetry. I. 3 hr. A study of the major Victorian poets—Tennyson, Browning, Arnold, Rossetti, Morris, Swinburne, Fitzgerald, and a few of the later Victorian poets. Mr. Gainer

258. Victorian Prose. II. 3 hr. A study of the non-fictional writings of the great Victorian prose critics: Carlyle, Ruskin, Arnold, Newman, Macaulay, Huxley, Morris. Mr. Gainer

259. Dramatic Art of Shakespeare. II. 3 hr. A study of several of Shapespeare's histories, comedies, and tragedies, showing the chronological development of his art and matters of stage presentation in Shakespeare's age. Mr. Bishop

†260. Studies in Shakespearean Comedy. I, II. 3 hr. PR: English 142, or consent of instructor. Textual and dramatic study of representative comedies. Mrs. Pettigrew

261. Technique of the Drama. I. 2 hr. A study of dramatic structure, with emphasis upon appreciation. Mr. Crocker

262. Study of Selected Authors. (American). I, II. 3 hr. A study of the works of a principal American author, or of more than one, as announced when the course is scheduled. Staff

263. Study of Selected Authors. (English). I, II. 3 hr. Study of the works of one or more of the principal English authors, as announced in the schedule when the course is listed. Staff

†264. Spenser. I. 3 hr. A study of Spenser's poetry, minor poems and *The Faerie Queen,* forms and sources, purpose of the great epic, social, political, and religious allegory. Staff

†266. Browning. I, II. 2 hr. A study of Robert Browning's most important shorter poems and *The Ring and the Book.* Some attention will be given to the life and poems of Mrs. Browning. Mrs. Pettigrew

†Not given in 1956-57.

267. Milton. II. 3 hr. A study of all of Milton's poems and of a few selected prose works. Mr. Gainer

270. American Poetry. I. 3 hr. A study of the major American poets of the nineteenth and twentieth centuries—Bryant, Poe, Emerson, Longfellow, Whitman, Dickinson, Frost, Eliot. Primary emphasis on their poetry as poerty; background materials minimized. Mr. Foster

272. Folk Literature. II. 3 hr. A study of the folk ballad, its origin, history, and literary significance, based on Child's collection and on American ballad collections. Mr. Gainer

*273. The Folktale and Allied Forms. II. 3 hr. The fairy tale and other folktale types, their currency in oral tradition, great collections of folktales, theories of the folktales, and methods of study. Mr. Gainer

*274. The Lyric. I, II. 2 hr. A history of lyric poetry with especial attention to the evolution of lyric styles. Mr. Draper

*275. The English Novel to the Time of Scott. I. 3 hr. A study of the English novel from the 16th century to the time of Scott, showing the development of the novelistic art from early narrative beginnings. Mr. Bishop

*276. The English Novel. 1832-1900. II. 3 hr. A continuation of English 275. The development of the English novel from the early 19th century to the beginning of the 20th century. Mr. Bishop

*277. Master Writers of the Essay. II. 3 hr. Reading and discussion of the works of major essayists from Montaigne and Bacon to the present day, together with a study of the historical development of the essay as a literary form. Mr. Brawner

*278. Tragedy. II. 3 hr. Masterpieces of tragedy in drama, poetry, and fiction from Greek times to modern, with consideration of the changing concepts of tragedy and of the ethical and ideological values reflected in the works of major tragic authors. Mr. Brawner

280. The Modern Novel. I. II. 3 hr. A study of technical methods employed by the twentieth century novelists. Through consideration of Henry James, Joseph Conrad, James Joyce, and others. Mr. Bishop

*291. Introduction to Literary Research. I, II. 2 or 3 hr. Lectures and exercises in research problems to prepare the student for such work in graduate and professional schools. Mr. Draper

Graduate Division

392. Seminar. I, II. 2 or 3 hr. PR: Specific courses to be approved by the instructor. A graduate study of the particular periods or authors. Staff

GEOLOGY AND GEOGRAPHY

Professors Fridley and Wells; Associate Professors Cross, Heald and Ludlum; Assistant Professor Myers; Instructor Dally.

BACHELOR OF SCIENCE IN GEOLOGY

Each candidate for the Bachelor of Science Degree is required to present credit for Geology 266 or its equivalent and must minor in an allied science. A total of 132 hours is required. The following schedule is recommended:

*Given only in alternate years.

Freshman	*Hr.*	*Sophomore*	*Hr.*	*Junior*	*Hr.*	*Senior*	*Hr.*
Foreign lang.	6	Foreign lang.	6	Geol. 127	2	Geol. 221	
English 1 and 2	6	Geol. 1 and 2	4	Geol. 151	3	and 222	6
Math. 3	3	Geol. 3 and 4	4	Geol. 152	1	Geol. 240	4
Math. 4	3	Chem. 1 and 2	8	Geol. 161	3	Geol. 246	3
Phys. 1	4	C. E. 1	2	Geol. 172	3	Geol. 271	3
Phys. 2	4	Mil. or Air Sci.		Geol. 184	4	Geol. 272	3
Mil. or Air Sci.		3 and 4	4	Geol. 185	4	Electives from	
1 and 2	4	*Electives (to com-		Geol. 231	4	the following:	
Phys. Educ.		plete general		Chem. 115	3	E.M. 201	2
1 and 2	2	Arts and Sci-		Chem. 163	4	Chem. E. 160	3
		ences require-		Electives	3	Geol. 285, 286	8
		ments)	6			Other	
						electives	6 to 8
	32		34		34		31-33

*At least six hours must be taken in one of the humanities or social sciences.

Geology 266 (6 hours) will normally be taken in the summer following the junior year. Math. 5, Analytic Geometry, is required in either the sophomore or junior year. Students who are planning to specialize in petroleum geology should take calculus.

BACHELOR OF ARTS IN GEOLOGY

The minor subject for this degree need not be a science and Math 5 is not required. At least nine hours more of the Social Sciences and Humanities are required for the A.B. than the B.S. degree in Geology. A total of 128 hours is required for the A.B. degree.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Foreign Lang.	3	Foreign Lang.	3
Foreign Lang.	3	Foreign Lang.	3	Geology 1	3	Geology 3	3
Math. 2 or 3	3	Mathematics 4	3	Geology 2	1	Geology 4	3
Physics 1	4	Physics 2	4	Chemistry 1	4	Chemistry 2	4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Electives,		Electives,	
Phys. Educ.	1	Phys. Educ.	1	Group 2	3-4	Group 2	3-4
				Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
				Phys. Educ.	1	Phys. Educ.	1
	14-16		14-16		17-18		17-18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Art 115	3	Geology 129	2	Geology 127	2	English 126	2
Geology 107	3	Geology 161	3	Geology 221	3	Geology 172	3
Geology 151	3	Chemistry 115	3	Geology 231	4	Electives	12
Geology 152	1	Elective	3	Electives	8		
Geology 184	4	Electives					
Electives		Group 4	3				
Group 1	3-4	Group 1	3-4				
	17 or 18		17-18		17		17

Courses of Instruction

GEOLOGY AND MINERALOGY

Lower Division

1. Physical Geology. I, II. 3 hr. Scientific description of composition and structure of earth; physical processes which change the earth's surface. (Geology

1 must be accompanied by Geology 2 in order to meet the requirements for 4 hours of a laboratory science in physical geology.) Staff

2. Physical Geology Laboratory. I, II. 1 hr. Accompanies Geol. 1. Staff

3. Historical Geology. I, II. 3 hr. PR: Geol. 1. Evolution of earth and its inhabitants. (Geology 3 must be accompanied by Geol. 4 in order to meet requirements for 4 hours of a laboratory science in historical geology.) Mr. Wells

4. Historical Geology Laboratory. I, II. 1 hr. Accompanies Geol. 3. Mr. Wells

Upper Division

125. Geologic Drafting. I, II. PR: Geol. 2 and 4. Staff

127. Map Interpretation. I. 3 hr. PR: Geol. 2 and 4. Relation of earth structure and history to land forms as shown on topographic maps. Mr. Fridley

128. Map Interpretation. II. 2 hr. Continuation of Geol. 127. With emphasis on geologic interpretation from aerial photos. Mr. Fridley

129. Cartography. I, II. 2 hr. Techniques, principles, and practices in art of map and graph construction. Letter and drawing instruments used in copy and field lay-out work designed for reproduction. Mr. Myers

151. Structural Geology. I. 3 hr. PR: Geol. 3. Shape and position of rock masses in the earth's crust; mechanical principles underlying various types of rock deformation; indication of economic importance of deformed rock strutures with respect to recovery of mineral products. Mr. Ludlum

152. Structural Geology Laboratory. I or II. 1 hr. PR: Geology 3. A laboratory course to accompany or follow the lecture course. Geology 151, Structural Geology. Mr. Ludlum

161. Field Geology, II. 3 hr. PR: Geol. 151. An introduction to actual field techniques utilized by geologists in mapping and reporting on geology of an area. Local areas studied in detail; 2 day field trip required for regional study. Mr. Dally

170. Natural Resources and Geology of West Virginia. II. 3 hr. PR: Geol. 1 or 107. A summary of geology of the State from a historical and economic standpoint. Staff

172. Economic Geology: Nonmetallics. II. 3 hr. PR: Geol. 184. Occurrence, formation, and use of nonmetallic mineral substances, including ground water, building materials, and chemicals. Mr. Ludlum

184. Mineralogy. I. 4 hr. PR: One year each of geology and chemistry. Elements of crystallography and systematic study of minerals except silicates. Identification of minerals by their physical properties supplemented by blowpipe analysis. Mr. Heald

185. Mineralogy and Petrography. II. 4 hr. PR: Geol. 184. Description, mode of occurrence, and classification of silicate minerals and rocks. Mr. Heald

221. Geomorphology. I. 3 hr. PR: Geol. 151. Study of surface features of eastern United States. Mr. Fridley

222. Geomorphology. II. 3 hr. PR: Geol. 151. Continuation of Geol 221. Surface features of western United States. Mr. Fridley

231. Invertebrate Paleontology. I. 4 hr. PR: Geol. 3 and 4. Invertebrate fossils; their biologic classification, evolutionary development, and use in correlation of strata. Mr. Wells

235. Introductory Paleobotany. I. 4 hr. PR: Geol. 3 and/or Bot. 2. A resume of the development of principal plant groups through the ages, present distribution, mode of occurrence and index species, methods of collection. Mr. Cross

236. Advanced Paleobotany. II. 4 hr. Continuation of Geol. 235. Mr. Cross

239. Seminar in Paleobotany. I, II. 1-2 hr, per semester. 6 hrs. max. PR: Geol. 235. Mr. Cross

240. Principles of Stratigraph. II. 4 hr. PR: Geol. 231. Study of the principles of rock and time correlation, emphasis on their application to the stratigraphy of West Virginia. Mr. Dally

246. Sedimentation. I or II. 3 hr. PR: Geol. 185. Origin of sedimentary rocks; principles involved in interpretation of ancient geography, climates, animals, and plants; i.e., basic foundations for stratigraphy. Mr. Dally

247. Sedimentation Laboratory. I or II. 1 hr. PR: Geology 185. A laboratory course to accompany or follow the lecture course, Geology 246, Sedimentation. Mr. Dally

266. Field Geology. SI. 6 hr. PR: Geol. 161. Practical experience in detailed geological field procedures and mapping. Living expenses are in addition to tuition and must be paid on or before registering. Mr. Wells and Mr. Dally

269. X-Ray Diffraction. I, II. 2 hr. The theory of X-ray diffraction and application to the anaylsis of crystalline materials using the powder camera and X-Ray diffractometer. Open to advanced students in geology, chemistry, engineering, and related fields with permission of the instructor. Mr. Heald

271. Economic Geology: Ore Deposits. I. 3 hr. PR: Geol. 172 and 185. Mineral composition, geologic features, and distribution of deposits of principal useful metallic minerals. Mr. Ludlum

272. Petroleum Geology. II. 3 hr. PR: Geol. 151. Origin, geologic distribution, methods of exploration and exploitation, uses and future reserves of petroleum and natural gas in the world, with special attention to the U.S. Mr. Ludlum

273. Petroleum Geology Laboratory. I, II. 1 hr. per semester. PR: Geology 151. A laboratory course to augment the lecture course, Geology 272, Petroleum Geology. Mr. Ludlum

274. Seminar in Economic Geology. I, II. 1-2 hr. per semester. PR: Geol. 172. Staff

275. Coal Geology. I. 4 hr. PR: Geol. 4. Study of origin, nature, and distribution of coal deposits. Includes an introduction to microscopic study of coal specimens. Mr. Cross

276. Advanced Coal Geology. II. 4 hr. Continuation of Geol. 275. Mr. Cross

285. Optical Mineralogy. I. 4 hr. PR: Geol. 185 and one year of physics. Principles and practice in use of the petrographic microscope in identification of minerals. Emphasis on determinations by immersion method. Mr. Heald

286. Petrology. II. 4 hr. PR: Geol. 285. Composition, texture, occurrence, and origin of rocks. Study of hand specimens and thin sections. Mr. Heald

290. Geologic Problems. I or II. 2-4 hr. Specialized work for seniors and graduates. Consult departmental adviser before registering. Staff

291, 292. Seminar. I, II. 1 hr. Mr. Wells

Graduate Division

329. Problems in Geomorphology. I, II. PR: Geol. 222. Mr. Fridley

332. Micropaelontology. II. 4 hr. PR: Geol. 231. Identification of Foraminifera, Bryoza, and Ostracoda with aid of microscope. Emphasis upon classification, nomenclature, and use of paleontological literature. Mr. Wells

334. Problems in Paleontology. I, II. 1-4 hr. PR: Geol. 231. Mr. Wells

339. Problems in Paleobotany. I, II. 1-4 hr. PR: Geol. 235. Mr. Cross

348. Problems in Sedimentation. I, II. 1-4 hr. PR: Geol. 246. Mr. Dally

349. Problems in Stratigraphy. I, II. 1-4 hr. PR: Geol. 240. Mr. Dally

359. Problems in Structural Geology. I, II. 1-4 hr. PR: Geol. 151. Mr. Ludlum

366. Problems in Field Geology. I, II. 1-6 hr. PR: Geol. 161. Mr. Dally

374. Problems in Advanced Economic Geology. I, II. 1-4 hr. PR: Geol 271. Mr. Ludlum

376. Problems in Coal Geology. I, II. 1-4 hr. PR: Geol. 276. Mr. Cross

379. Seminar in Coal Research. I, II. 1-2 hr. PR: Consent. Credit 1 hour per semester, maximum credit 2 hours. (In cooperation with other departments and the U.S. Bureau of Mines.) Staff

387. Advanced Petrology. I. 3 hr. PR: Geol. 286. A study of the composition, classification, and origin of the igneous and metamorphic rocks. Laboratory work consists of a study of crystalline rocks mainly by microscopical methods. Mr. Heald

388. Problems in Mineralogy and Petrology. I, II. 1-4 hr. PR: Geol. 286. Mr. Heald

397, 398. Research. I, II. 1-5 hrs. 6 hrs. max. Specialized work for advanced students based upon field or laboratory evidence and reported upon in candidacy for Master's Degree. Staff

399. Research. I, II. 1-6 hr. per semester, 12 hrs. max., open only to Ph.D. candidates. Staff

GEOGRAPHY

Upper Division

107. Introductory Geography. I. 3 hr. Relationship between environment and forms of life; emphasis on physiography and climatology. Mr. Myers

109. Economic Geography. II. 3 hr. Regional method of treating agricultural, industrial, and commercial development of each of various countries of the world. Mr. Myers

116. Geography of North America. II. 3 hr. A regional study of the area north of the Rio Grande with interpretation of geographic factors influencing growth, and problems connected with future development. Mr. Myers

118. Geography of Europe. I. 3 hr. Geographic description of continent as a whole, its political divisions, followed by study of individual regions. Mr. Myers

215. Industrial Geography. I. 3 hr. PR: 12 hr. of economics, history, geology. Factors which contribute to development of major industrial regions; detailed analysis of selected industries. Mr. Myers

216. Urban Geography. II. 2-3 hr. 12 hr. of economics, history, geology. Study of present day American cities from their distribution, function and internal structure. Field work in local urban centers and their tributary areas will be made. Mr. Myers

219. Seminar in Geography. I, II. 1-3 hr. per semester: PR: 12 hr. of economics, history, geology. Mr. Myers

Graduate Division

319. Problems in Geography. I, II. 1-4 hr. PR: 12 hr. of social studies and geology. Mr. Myers

GERMAN

Professor Lemke; Associate Professor Stilwell; Instructors Heilbronner and Taylor.

Students majoring in German are advised to base their schedule of upper-division courses from the following subjects, which are listed here in the order of their importance: German, education, English, European history, Romance languages, modern philosophy, and political science. Those who are not planning to teach German may omit the courses in education, but the sequence of subjects, from the viewpoint of their desirability for a major in German, remains the same.

PROGRAM OF COURSES FOR MAJORS IN GERMAN

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
German 1	3	German 2	3	German 3	3	German 4	3
English 1	3	English 2	3	German 111	3	German 112	3
Electives, Group 1	3-4	Electives, Group 1	3-4	French 1	3	French 2	3
Laboratory Sci.	4	Laboratory Sci.	4	Pol. Science 1	3	Pol. Science 2	3
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1
	14-17		14-17		16-17		16-17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
German	6	German	6	German	6	German	3
French 5	3	French 6	3	Electives	9-12	Electives	12-15
Philosophy 4 or 104	3	Speech 3 or 11	3				
Electives	3-6	Electives	3-6				
	15-18		15-18		15-18		15-18

Advanced courses should include German 245 and 251. Recommended minor fields are English, French, Philosophy, History, or Political Science.

Courses of Instruction[17]

Lower Division

1. Elementary German. I, II. 3 hr. Pronunciation, syntax, reading, composition. Staff
2. Elementary German. I, II. 3 hr. Extensive reading. Staff
3. Intermediate German. I. 3 hr. Rapid reading of prose by modern authors. Staff
4. Intermediate German. II. 3 hr. Continuation of German 3. Staff

Upper Division

105. The German Novelle. I. 3 hr. Representative stories of Keller, Meyer, Storm, and Stifter. Mr. Lemke

106. The German Novelle. II. 3 hr. From naturalism to present day. Continuation of German 105. Mr. Lemke

[17]German 1, 2, 3, and 4 are each prerequisite to the next following, and the four combined are prerequisite to all other courses with the exception of German 111, 112, and 122, for which German 1 and 2 are prerequisite.

107. Nineteenth Century Drama. I. 3 hr. Critical study of selected dramas by Kleist, Grillparzer, Hebbel, Ludwig. Mr. Lemke

108. Nineteenth Century Drama. II. 3 hr. Continuation of German 107. Mr. Lemke

111. Spoken German. I. 3 hr. Practice in speaking and writing. Mr. Stilwell

112. Spoken German. II. 3 hr. Continuation of German 111. Mr. Stilwell

121. Scientific German. I. 3 hr. Primarily for students in science courses. Staff

122. Scientific German. II. 3 hr. Continuation of German 121. Staff

136. Introduction to Goethe. II. 3 hr. Mr. Lemke

161. Lyric Poetry. I. 3 hr. Mr. Lemke

163. Modern German Prose in English Translation. I. 3 hr. PR: None. Reading and discussion of outstanding German short stories and a few novels. (No credit allowed for departmental majors nor for regular language requirements.) Mr. Lemke

201. Independent Reading. I. 3 hr. Supervised reading for students who wish to do intensive work in any field of interest. Mr. Lemke

202. Independent Reading. II. 3 hr. Continuation of German 201. Mr. Lemke

211. Middle High German. I. 3 hr. PR: 12 hours of German from upper division. Mr. Stilwell

212. Middle High German. II. 3 hr. Continuation of German 211. Mr. Stilwell

231. Advanced Spoken German. I. 3 hr. PR: German 111 and 112. Additional practice in speaking and writing German. Mr. Stilwell

232. Advanced Spoken German. II. 3 hr. Continuation of German 231. Mr. Stilwell

242. Faust. II. 3 hr. Critical study of Goethe's *Faust*. Mr. Lemke

244. German Literature Before Goethe. II. 3 hr. A survey of German literature from its beginnings to the middle of the 18th century. Mr. Stilwell

245. Survey of German Literature, 1766-1870. I. 3 hr. Mr. Lemke

246. Survey of German Literature, 1870-1940. II. 3 hr. Mr. Lemke

251. History of the German Language. I. 3 hr. PR: 18 hr. of German or consent. Development since ancient times. Mr. Stilwell

252. German Philology. II. 3 hr. PR: German 251 or consent. Comparison of old Germanic dialects and literatures. Mr. Stilwell

272. The Romantic Movement. II. 3 hr. Mr. Lemke

275. The Modern Novel. II. 3 hr. PR: 18 hr. of German. Supervised reading of nineteenth century novels. Mr. Lemke

276. The Modern Novel. II. 3 hr. Continuation of German 275, with emphasis on recent fiction. Mr. Lemke

281. Old Norse. I. 3 hr. PR: consent. Elementary study of Old West Norse prose. Mr. Stilwell

282. Old Norse. II. 3 hr. Readings in various Old Icelandic sagas; introduction to Old Norse poetry. Continuation of German 281. Mr. Stilwell

HISTORY

Professors Summers, Easton, and Ennis; Associate Professors Barns, Keen, and Smith; Assistant Professor Puryear; Instructors Johnson, Levine and Purifoy.

Before graduation history majors are required to complete 18 hours in upper-division courses, including History 276, introduction to historical research and bibliography. Six hours in political science and 6 hours in economics are also required in addition to the special requirements for the A.B. Degree. Students who expect to major in history should complete the following subjects, or their equivalents, in their first and second years; English, 6 hours; French or German, 12 hours; history, 12 hours, which should include History 52 and 53 and may include one year's work in either Humanities or Social Sciences general courses; laboratory science, 8 hours; political science, 6 hours; and economics, 6 hours. In planning work in history, students should consult the department in order that advanced courses may be properly correlated as well as suited to individual needs and tastes. One lower-division "year course" or equivalent in history is prerequisite for a major, but prospective majors are advised to take two such courses or History 52 and History 53 and one year of Humanities or Social Sciences general courses.

CURRICULUM FOR A.B. DEGREE WITH MAJOR IN HISTORY

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Electives,		Electives,	
Foreign Lang.	3	Foreign Lang.	3	Group 3*	3	Group 3*	3
Laboratory Sci.	4	Laboratory Sci.	4	Foreign Lang.	3	Foreign Lang.	3
History 1	3	History 2	3	History 52	3	History 53	3
Mil. or Air Sci. 1	2	Mil or Air Sci. 2	2	Economics 1	3	Economics 2	3
Phys. Educ.	1	Phys. Educ.	1	Pol. Science 1	3	Pol. Science 2	3
				Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
				Phys. Educ.	1	Phys. Educ.	1
	14-16		14-16		16-18		16-18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
History†	6	History	6	History 276	3	History	3-6
Minor	3	Minor	3	History**	3	Minor or	
Electives	6-9	Electives	6-9	Minor	3-6	Electives	3-6
				Electives	6-9	Electives	6-9
	15-18		15-18		15-18		15-18

*Teacher's Certification. In Group 3, English 3 and 4 should be selected.
†History courses numbered 100-199 are recommended.
**History courses numbered 200-299 are recommended.

Courses of Instruction

Lower Division[18]

1. World Civilization from the Earliest Times to the Reformation. I, II. 3 hr. For freshmen. The development of social, economic, and political institutions. Mr. Easton, Mr. Ennis, Mr. Johnson, Mr. Levine and Miss Smith

2. World Civilization from the Reformation to the Present. I, II. 3 hr. For freshmen. Continuation of History 1.
Mr. Easton, Mr. Ennis, Mr. Johnson Mr. Levine, and Miss Smith

[18]All first and second-year courses are offered as lower-division "year courses." These courses run through the year, but in no case is the first half-year a prerequisite for the second half. For example, History 1 is not a prerequisite for History 2. History 1 and History 2 make up the introductory first year in history. History 52 and 53 are primarily for sophomores. A freshman should not take more than one "year course" at a time.

52. Growth of American Nation to 1865. I, II. 3 hr. Primarily for sophomores. Mr. Barns, Mr. Keen, Mr. Purifoy, Mr. Puryear, and Mr. Summers

53. Making of Modern America, 1865 to Present. I, II. 3 hr. Primarily for sophomores. Mr. Barns, Mr. Keen, Mr. Purifoy, Mr. Puryear, and Mr. Summers

Upper Division

101. History of Ancient Times: Stone Age to Fall of Rome.* I. 3 hr. Mr. Johnson

102. Medieval Europe: Fall of Rome to Renaissance.* I. 3 hr. Mr. Johnson

103. Modern Europe, 1500-1815. I. 3 hr. Staff

104. Modern Europe, 1815 to the Present. II. 3 hr. Staff

107. French Revolution.* I. 3 hr. Mr. Easton

108. Napoleonic Era.* II. 3 hr. Mr. Easton

120. Latin-American History: Colonial Peroid and Wars of Independence. I. 3 hr. PR: One year of history or consent. Mr. Keen

121. Latin America Since 1824. II. 3 hr. Continuation of Hist. 120 Mr. Keen

133. British Civilization to 1689. I. 3 hr. Miss Smith

134. British Civilization since 1689. II. 3 hr. Miss Smith

145. Current American Problems. I or II. 3 hr. Staff

148. Living Issues in American History. I or II. 3 hr. Mr. Barns

150. West Virginia. I, II. 3 hr. Mr. Summers

151. American Colonial History. I or II. 3 hr. Mr. Puryear

152. The Growth of American Nationalism, 1763-1850. I or II. 3 hr. Staff

164. History of Asia. I. 3 hr. Mr. Ennis

179. American Economic History to 1865. I. 3 hr. Mr. Barns

180. American Economic History since 1865. II. 3 hr. Mr. Barns

181. The American Labor Movement. II. 3 hr. Mr. Barns

190. The Cultural History of the American People to 1876. I or II. 3 hr. Mr. Keen

191. The Cultural History of the American People since 1876. I or II. 3 hr. Mr. Keen

201. Modern Problems in the Ancient and Medieval Worlds. I or II. 3 hr. PR: At least junior standing. Mr. Johnson

206. The Renaissance and the Reformation. II. 3 hr. PR: For seniors and graduate students with one year of history, or with consent. Mr. Easton

207. Cultural Europe, 1600-1800. I or II. 3 hr. PR: For seniors and graduate students with one year of European history, or with consent. Mr. Easton

208. Cultural Europe, 19th Century. I or II 3 hr. Continuation of Hist. 207. Mr. Easton

213. Social and Economic Development of Modern Europe, 1750-1870. I. 3 hr. PR: History 1 and 2, or consent. Mr. Easton

214. Social and Economic Development of Modern Europe Since 1870. II. 3 hr. Continuation of History 213. Miss Smith

*PR: One college course in European history, or censent of instructor.

217. History of France from Richelieu to the Fourth Republic. I or II. 3 hr. PR: Same as for History 206. Mr. Easton

218. History of Germany since the Thirty Years' War. I or II. 2 hr. PR. Same as for History 206. Mr. Easton

219. History of Russia from Varangians to Bolsheviks. I. 3 hr. PR: Same as for Hist. 207. Mr. Easton

222. The Hispanic Background of American History. I, II. 3 hr. For seniors and graduate students, or with consent. Mr. Keen

231. The British Empire. I. 3 hr. PR: Hist. 134 or consent. Miss Smith

234. Social and Economic History of Modern England. I and II. 3 hr. PR: Hist. 134, or with consent. Miss Smith

236. English Constitutional Growth. I or II. 3 hr. Hist. 133. Miss Smith

241. Europe from Sedan to Versailles. I. 3 hr. PR: Hist. 1 and 2 or equivalent. Mr. Ennis

242. Europe from Versailles to Nuremberg. II. 3 hr. Continuation of Hist. 241. Mr. Ennis

249. The Westward Movement to 1820. I. 3 hr. PR: Hist. 52 and 53 or equivalent. Staff

250. Economic and Social Development of West Virginia. I or II. 3 hr. PR: Consent. Primarily for teachers. Staff

254. Trans-Mississippi West. II. 3 hr. Continuation of Hist. 249. Staff

255. The Jacksonian Era. II. 3 hr. PR: Hist. 52. Staff

256. The Old South. I, II. 3 hr. For seniors and graduate students, or with consent. Mr. Puryear

257. The American Civil War. I, II. 3 hr. For seniors and graduate students, or with consent. Mr. Summers

258. Reconstruction and National Development, 1865-1898. I. II. 3 hr. For seniors and graduate students, or with consent. Mr. Summers

259. The United States from McKinley to the New Deal,1898-1933. I. 3 hr. PR: Seniors and graduate students, or consent. Mr. Barns

260. American Diplomacy to 1898. I. 3 hr. Hist. 52 and 53 or equivalent. Mr. Keen

261. American Foreign Policy and Diplomacy, 1898-1947. II. 3 hr. Continuation of Hist. 260. Mr. Keen

262. Problems of the Pacific. II. 3 hr. PR: Hist. 164. Mr. Ennis

263. Anglo-American Diplomatic Relations. I. 3 hr. PR: For seniors and graduate students, or with consent. Mr. Keen

264. The United States and Latin America. 1783-1947. II. 3 hr. PR: For seniors and graduate students, or consent. Mr. Keen

265. American Constitutional Development to 1860. I. 3 hr. PR: History 52 and 53 or equivalent. Mr. Puryear

266. American Constitutional Development since 1860. II. 3 hr. Continuation of History 265. Mr. Puryear

269. Recent American History. I or II. 3 hr. For seniors and graduate students, or with consent. Mr. Barns

270. Partition of Asia. I or II. 3 hr. PR: Hist. 164. Mr. Ennis

271. Problems in Contemporary Europe. I or II. 3 hr. Continuation of History 242. Mr. Ennis

276. Introduction to Historical Research and Bibliography. I, II. 3 hr. This course prescribed in fourth year for all history majors. Mr. Keen

277. The Literature of American History. I. or II. 3 hr. Open to graduate students in history and to seniors majoring in history. Mr. Keen

282. History of American Agriculture. I or II. 3 hr. PR: History 52 and 53, or consent. Mr. Barns

290. Growth of American Thought Before 1865. II. 3 hr. For seniors and graduate students, or with consent. Staff

291. Growth of American Thought Since 1865. II. 3 hr. For seniors and graduate students, or with consent. Staff

Graduate Division

301, 302. Thesis, I, II. 2 or 3 hr. each semester. Staff

303, 304. Research. I, II. 6 hr. each semester. Staff

310. Topics in American Intellectual History. I, II. 3 hr. Staff

349, 350. Problems in Local and Regional History. I, II. 3 hr. each semester. Mr. Barns and Mr. Summers

356. American Political Leaders, 1775-1873. I or II. 3 hr. Staff

357. American Political Leaders, 1837-1877. I or II. 3 hr. Mr. Summers

358. American Political Leaders, 1877-1921. I or II. 3 hr. Mr. Summers

360. Rise of Nationalism in Asia. I or II. 3 hr. Mr. Ennis

361. Contributions of Asia to Western Civilization. I or II. 3 hr. Mr. Ennis

384, 385. Problems in British Imperialism and World Politics. I, II. 3 hr. each semester. Miss Smith

389. Problems in Revolutionary Europe. 1763-1815. I or II. 3 hr. Mr. Easton

HOME ECONOMICS

Professor Noer (Adviser) and Staff

The degree of Bachelor of Arts with a major in Home Economics is offered by the College of Arts and Sciences. Courses for this program of study are provided by the College of Arts and Sciences and by the College of Agriculture, Forestry, and Home Economics. In order to qualify for this degree, a student must meet the general requirements for the A.B. degree as outlined on page 122. The general courses listed below are taught by the Home Economics staff of the College of Agriculture, Forestry, and Home Economics and are approved for fulfillment of the requirements of a major in the College of Arts and Sciences.

Careers in home economics are open to practically every type of girl: the artistic, the businesslike, the science minded, the teacher, and the homebody. Students who elect home economics as a major will find it possible to prepare at the same time for homemaking and a profession. The knowledge and experience gained in pursuing a course in home economics also will help the student to become an efficient, understanding, and happy homemaker.

A student desiring to obtain a high-school teaching certificate in the field of Home Economics should inform her adviser at the beginning of the first semester so that a proper program may be planned. For specific information in regard to certification for teaching, see the bulletin *Requirements Applicable to Degrees and Certificates.*

A suggested curriculum:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Electives, Group 3*	3	Electives, Group 3*	3
Biol.*, Phys. Sci.* or Chemistry**	4	Biol.*, Phys. Sci.* or Chemistry**	4	Electives, Group 2*	3-4	Elective, Group 2*	3-4
Foreign Lang.	3	Foreign Lang.	3	Home Econ. 105 or 15*	2-3	Home Econ. 12, 17 or 23	2-3
Home Econ. 1, 2,† 3, or 4 (any two)	4	Home Econ. 1, 2,† 3, or 4 (two not taken 1st Sem.)	4	Group 1		Group 1	3-4
Elective (Music 10 or Art 30*)	2	Elective (Music 10 or Art 30*)	2	Foreign Lang.	3	Foreign Lang.	3
Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1
	17		17		15-18		15-18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*First Sem.*	*Hr.*
Home Econ. 114	2	Home Econ. 106	3	Home Econ. electives*	4-6	Home Econ. electives*	3-6
English 18*	3	Elective, Group 5*	3-4	Minor field	3	Electives	13
Home Econ. electives*	3-5	Home Econ. Electives	3-5	Electives	9		
Minor	3	Minor	3				
Elective	2						
	16		15		16		16

*The following notes apply to those who wish to qualify for a secondary teachers certificate.
(a) Biology or Physical Science required.
(b) Music 10 and Art 30 or 130 required.
(c) Group 3—English or American Literature required.
(d) Group 2—Social Science required.
(e) Home Economics 15 required.
**Required of those planning to take upper division work in foods and/or nutrition.
†Students who exempt Home Economics 2 by placement test take Home Economics 12.

Courses of Instruction

1. Elementary Nutrition. I, II. 2 hr. Essentials of adequate diet; application with particular reference to needs of college students. Staff

   Section 2. I. 2 hr. Advanced section of H.E. 1 for those who qualify on the basis of placement test. Staff

2. Elementary Clothing. I, II. 2 hr. Problems in selection and construction of clothing. For freshmen and others who do not pass placement test. Miss Rennebohm

3. Art Applied to Personal Problems. I, II. 2 hr. Principles of design and color applied so as to help college students meet problems of daily living. Problems may include room arrangement, clothing, design, etc. Mrs. Muffly

4. Elementary Management. I, II. 2 hr. Simple problems in management of time, energy, and other resources. Practical application to problems of individual members of the class. Mr. Moss

12. Intermediate Clothing. I, II. 3 hr. PR: H.E. 2 or exemption of H.E. 2 by placement test. Particular emphasis on high standards of workmanship and evaluation of work and progress. As students develop skill they will be expected to work with increasing independence. Miss Rennebohm

15. Food Selection and Preparation. I, II. 4 hr. PR: H.E. 1, Chem. 2 or Phys. Sci. 2, or consent. Two lectures and two labs. Chemical and physical basis for food preservation with enough experimental work to give an understanding of reasons for recommended procedures in preparation of food products of high quality. Mrs. Jones

17. Textiles. I, II. 3 hr.. Lecture and lab combined. Textile fibers and fabrics studied with view to their use in dress and in the home. Characteristics of the major fibers and their suitability to various uses. Study of standard and novelty materials with emphasis on appropriate use and care. Miss Dietrich

21. Nutrition and Foods for Nurses. I. 3 hr. Fundamental principles of human nutrition and of food preparation. Content of course is that given in "Teaching Dietetics to Student Nurses," by American Dietetic Association. Staff

23. Present-Day Housing. I, II. 2 hr. PR: H.E. 3 or consent. Factors to be considered in providing housing for families at different income levels. Special attention to low-cost housing. Factors to be considered in selecting a home and furnishings for families of different income levels. Lab practice in improving rooms, apartments, and houses—using materials commonly found in rural communities and small towns. Mrs. Muffly.

101. Nutrition. I. 3 hr. PR: H.E. 15, Chem. 2 or Phys. Sci. 2 with consent. Two lectures and one lab. Food needs as affected by such factors as age, sex and activity; nutritive value of common foods; planning of adequate diets at different cost levels. Staff

102. Clothing Selection. I, II. 2 hr. PR: H.E. 3, H.E. 2 or consent. Two lectures. Selection of clothing for whole family from viewpoint of design, color and economy. Clothing inventories and buying plans. Miss Rennebohm

104. Nutrition and Home Management. II. 3 hr. Planned to meet the needs of social work majors. Not open to students majoring in Home Economics. Offered in alternate years, 1957-59-61. Mr. Moss and Staff

105. Planning and Serving Family Meals. II. 2 hr. PR: Consent. A practical course in food preparation. Special attention given to simple workable types of table service. Much of the course will be governed by individual needs and interests of students. (Not open to Home Economics majors) Mrs. Jones

106. Child Development. I, II. 3 hr. PR: Psych. 1 or 3 or Ed. 105 or 106. Two lectures. Child from prenatal period to pre-adolescence. University Nursery School used for observing children. Four hours a week for observation and participation. Miss Brown and Mrs. Ayersman

111. Requirements for Normal Human Nutrition. I, II. 3 hr. Lecture and demonstration. Two 2-hour and one 1-hour class per week. Staff

113. House Decoration. II. 3 hr. For non-majors. Designed primarily for students who are not majoring in Home Economics. Two lectures and one lab. Materials and furnishings that go into decorating and furnishing a home with emphasis on cost, buying, and reconditioning. Mrs. Muffly

114. Management of Family Living. I, II. 2 hr. PR: H.E. 4 or consent. Influence of home conditions of families and family members. In considering ways of meeting everyday problems of families an attempt will be made to apply findings of science and techniques of management in such a way as to help families achieve satisfaction in living. Mr. Moss

115. Meal Planning, Preparation, and Service. I, II. 3 hr. PR: H.E. 15 or consent. One lecture and one 3-hour lab. Problems in selection and purchase of foods; planning, preparing, and serving of meals including wise use of time and energy. Mrs. Jones

116. Home Nursing. II. 2 hr. 1 lecture, one 2-hour lab. Practices to promote family health and caring for minor illnesses. Offered in alternate years, 1956-58-60. Staff

117. Textile Buying. II. 2 hr. PR: H.E. 17. Lecture and laboratory combined. Buying of textiles for all types of clothing and for household. At least one field trip required. Offered in alternate years, 1957-59-61. Miss Dietrich

121. Nutrition Work With Children. II. 2 hr. PR: 115, 101, 106 or 106 parallel or consent. Problems involved in feeding children optimum diets. Opportunity for students to (1) prepare noon meals for University Nursery School Children; (2) observe a number of school-lunch programs in and near Morgantown Staff

123. Home Planning and Furnishing. I, II. 4 hr. PR: H.E. 23. Two lectures and two laboratories. Fundamentals of wise planning to meet family needs; understanding of house structure and home needs. Discussions on home decorating based on various income levels and suitability to various communities and families. Mrs. Muffly

124. Demonstration Techniques. I, II. 2 hr. PR: Minimum of 4 hours in each of 4 areas of home economics and consent. Lecture demonstration as means of presenting home economics material to groups. Develop and presentation of demonstrations suitable for secondary schools and for use with adult groups. Staff

125. Foods for Special Occasions. II. 2 hr. PR: H.E. 15 or consent. Preparation of special foods for parties, dinners, teas, and other social functions, with laboratory experiences in organization and management of food service for such occasions. Offered in alternate years, 1956-58-60. Mrs. Jones

132. Clothing techniques. II. 2 hr. Not open to Home Economics majors. Techniques for simple garment construction, remodeling, alteration, and repair. Problems adapted to needs of individual students. Especially planned for Arts and Sciences students and young homemakers. Miss Rennebohm

133. Home Crafts. II. 2 hr. Two labs. Experience in simple crafts, using such materials as leather, plastic, metals, paper, thread, and fabric for creation of useful and beautiful objects. Equipment and materials used are those readily available in home, school, and camp situations. Mrs. Muffly

181. Problems in Nutrition. I, II. 1-4 hr. PR: Consent. Staff

182. Problems in Clothing Construction. I, II. 1-4 hr. PR: Consent. Staff

183. Problems in Related Art. I, II. 1-4 hr. PR: Consent. Staff

184. Problems in Home Management. I, II. 1-4 hr. PR: Consent. Staff

185. Problems in Foods. I, II. 1-4 hr. PR: Consent. Staff

186. Problems in Child Development. I, II. 1-4 hr. PR: Consent. Staff

187. Problems in Textiles. I, II. 1-4 hr. PR: Consent. Staff

201. Diet in Disease. II. 2 hr. PR: H.E. 101, Zoology 151, Chem. 131. Adaptations of normal diet for diseases whose prevention or treatment is largely influenced by diet. Offered in alternate years, 1958-60-62. Staff

205. Experimental Cookery. II. 3 hr. PR: H.E. 15, Chem. 131. 1 hr. lecture, one 2-hr. lab. and one 3-hr. lab. Utensils, ingredients, temperature, manipulation, and cooking methods as they affect quality of cooked products. Offered in alternate years, 1957-59-61. Mrs. Jones

206. Observation and Participation in the Nursery School. II. 1-2 hr. PR: H.E. 106. Directed experience in working with children in a nursery-school situation. Laboratory and conference. Offered in alternate years, 1957-59-61. Miss Brown and Mrs. Ayersman

211. Reading in Nutrition. II. 2 hr. PR: H.E. 101. Reviews of current literature and of present research. Topics depend upon needs and interests of class members. Offered in alternate years, 1957-59-61. Staff

212. Advanced Clothing Construction. II. 2 hr. PR: H.E. 17, 233. Problems of fitting, draping, and pattern adaptation using the dress form. Speed methods emphasized. Miss Rennebohm

214. Family Economics. I. 2 hr. PR: 30 hr. of H. Ec. Managing the family food, clothing, shelter, and health dollar. Budgeting the family income. Providing for the future. Credit in family economics. Consumer protection. Miss Whitesides

215. Food Preservation. I. 3 hr. PR: H.E. 15 or equivalent and (or consent) Bact. 141. Fundamental principles involved in preservation of foods by canning, drying, fermentation, curing, and freezing as applied in the home and in centers equipped for quantity work. One lecture, two 3-hr. labs. Offered in alternate years, 1957-59-61.

217. Reading in Textiles. I. 2 hr. PR: H.E. 17. Review and discussion of current literature reporting recent research in field Offered in alternate years, 1957-59-61. Miss Dietrich

221. Community Nutrition Problems. I. 2 hr. PR: H.E. 101 or consent. Two hours of staff lecture and field work. Includes consideration of organizations and agencies through which these problems may be solved. Offered in alternate years, 1956-58-60. Staff

222. Tailoring. II. 3 hr. PR: H.E. 12, 17. Problems in teaching tailoring, including sources of help and new techniques. Emphasis on methods of helping students evaluate their own progress. Opportunity for laboratory experience in cutting, fitting, construction, and pressing of tailored garments. Miss Rennebohm

234. Home Management Laboratory. I, II. 3 hr. PR: H.E. 114, 115. Arranged. house care, pest control, buying and storing foods, use and care of home equipment, entertaining, money management, simple record keeping, and infant care. Junior standing preceding or parallel with H.E. 234. Miss Whitesides

233. Costume Design. I. 2 hr. PR: H.E. 3, 12, 117. Techniques of figure and fashion drawing. Problems in designing costumes and ensembles for individuals of various types and ages. Miss Rennebohm

234. Home Management Laboratory. I, II. 3 hr. PR: H.E. 114, 115. Arranged. Emphasis on satisfying family life and social relationships. Approximately five weeks of home residence and one hour of discussion each week throughout the semester. Staff

254. Household Equipment. II. 2 hr. PR: Senior standing. Selection, arrangement, use and care of equipment for various situations and for different income levels. Laboratory and discussion. Miss Whitesides

266. Needs of Adolescents. I. 3 hr. A study of adolescent needs as met by the home with contributions of other agencies such as church, school and youth groups. Physical, social and integrative needs will be considered from the standpoint of needs of all family members as well as the individual. Miss Brown

281. Problems in Nutrition. I, II. 1-4 hr. PR: Consent. Staff

282. Problems in Clothing. I, II. 1-4 hr. PR: Consent. Staff

283. Problems in Related Art. I, II. 1-4 hr. PR: Consent. Staff

284. Problems in Home Management. I, II. 1-4 hr. PR: Consent. Staff

285. Problems in Foods. I, II. 1-4 hr. PR: Consent. Staff

286. Problems in Child Development, I, II. 1-4 hr. PR: Consent. Staff

287. Problems in Textiles. I, II. 1-4 hr. PR: Consent. Staff

LIBRARY SCIENCE

Assistant Professor Reese and Staff.

Courses in library science are designed to meet the needs of students preparing to qualify for State certification as teacher-librarians in public schools. A student who is a candidate for an A.B. degree with a major in this field must satisfy the requirements of the College of Arts and Sciences and have completed 24 hours of library science. If planning to serve as school librarian, the minimum number of hours of education to meet certification standards will be required.

Certain courses, such as "Reference and Bibliography" will be valuable to any university student as an aid to the tools and methods of research; "Library Materials for Children" and "Selection of Books and Related Materials for Young People" will be helpful to prospective teachers.

Qualities essential to school librarianship are adaptability, understanding and appreciation of young people and their needs, a thorough knowledge of books, materials and sources.

Students wishing to do graduate work in library science should plan their course to give a broad general background. A strong major in their chosen field supplemented by introductory courses in as many subject fields as possible will provide a good background for graduate work. Additional hours of modern foreign language, preferably French or German are desirable. A knowledge of typing is essential.

CURRICULUM FOR A.B. WITH MAJOR IN LIBRARY SCIENCE

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Laboratory Sci.	4	Laboratory Sci.	4
Foreign Lang.*	3	Foreign Lang.*	3
Lib. Sci. 1	2	Electives	
Electives		Group 1 or 2	3-6
Group 1	3-4	Phys. Educ.	1
Phys. Educ.	1	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2		
	16-18		17-18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 3 or 5	3	English 4 or 6	3
Foreign Lang.	3	Foreign Lang.	3
Social Science 1	4	English 18 or 21	3
Electives		Social Science 2	4
Group 1 or 2	3	Electives	
Speech 3 or 11	3	Group 1 or 2	3
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	17-18		17-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Lib. Sci. 101	3	Lib. Sci. 102	3
Lib. Sci. 104	2	Lib. Sci. 205	3
Lib. Sci. 203	3	Education 106	3
Education 105	3	Art 130	3
Electives		Electives	
Group 3		Group 3	
Upper Div.	3	Upper Div.	3
Electives		Electives	
Group 4 or 5	3	Group 4 or 5	3
	18		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Lib. Sci. 108	3	Lib. Sci. 106	3
Lib. Sci. 207	3	Health Educ. 180	2
Education 114	3	Practice Teaching	8
Electives	8	Electives	3-4
	17		16-17

*Modern foreign language, preferably French or German. Students should have at least 12 hours. Additional hours are desirable for graduate study.

Courses of Instruction

Lower Division

1. Using Books and Libraries. I, II. 2 hr. Planned to give a working knowledge of library facilities, particularly of the University Library. Basic reference materials are considered together with simple bibliography making. A general course useful to any student in the University and required for majors in library science. Staff

Upper Division

101. Reference and Bibliography. I. 3 hr. Basic reference books, dictionaries, encyclopedias, indexes, year books, and other reference materials are studied and evaluated, with practice in detailed bibliography making. Staff

102. Cataloguing and Classification. II. 3 hr. Fundamental principles of cataloguing and classification, with practical experience in handling all types of books. Problems of teacher-librarians receive special attention. Staff

104. Book Selection. I. 2 hr. Reading and evaluation of representative books in broad subject fields; emphasis on contemporary books and adult reading interests. Practical work in use of selection aids and in oral and written book reviewing. Staff

106. History of Books and Libraries. II. 3 hr. Survey course, including the development of writing, the history of writing materials, the development of the book from early manuscript form, history of printing, printers, illustrators, bindings, and libraries. Staff

108. Library Practice. I, II. 3 hr. Field Work; embodies application of techniques in various types of libraries. Visits to libraries in surrounding area. Staff

203. Library Materials for Children. I, II, S. 3 hr. A survey of the development of children's literature with emphasis on modern books. Evaluation of the aids and standards for selection of books and materials in this field. Study and comparison of the work of illustrator's of children's books and various editions of individual titles. Investigation of children's reading interests and practice in story telling are included. Reading of Books in various classes is emphasized. Discussions, reports and special projects. Intended primarily for teachers whose duties include the selection of books either for class or library use. (May not be offered for graduate credit by library science majors.) Staff

205. Selection of Books and Related Materials for Young People. II, S. 3 hr. A survey of adolescent literature and other library materials adapted to the needs of high school students. Critical evaluation of standard, classic and current books together with aid and criteria for selection. Reading interests and the problem of retarded and non-reader will be considered. Designed for the teacher who is interested in selection problems or for the school librarian. (May not be offered for graduate credit by library science majors.) Staff

207. School Library Organization and Administration. I, S. 3 hr. A study of the organization and administration of school libraries, including planning of rooms, equipment routines and schedules. Attention is given to special phases of the work such as discipline, publicity and displays, reading, guidance, handling of audio visual materials and the work of student assistants. Lectures, readings, discussions and special problems. Designed to meet the needs of the librarian and teacher-librarian. (May not be offered for graduate credit by library science majors. Staff

MATHEMATICS

Professors Davis, Stewart, Veihe, and Vest; Associate Professor Cunningham; Assistant Professors Peters, and Posey; Instructors Barron, Carlin, Cochran, Cook, Duda, Easton, Foley, Godfrey, Hawkins, Lowenberg, Ollom, Reed, and Weihrer.

Mathematics majors must complete 18 hours in mathematics beyond calculus. These will ordinarily include Mathematics 235, 240, 246, 251, and 252. The minor may be physics, or some other subject approved by the adviser. French or German should be taken while in the lower division.

Lower division students who plan to become majors in the department, and who also wish to meet the requirements for teacher certification, should so inform their adviser, and must plan their schedules very carefully in order to avoid loss of time.

Following is a suggested program for prospective majors in mathematics.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	French or German	3	French or German	3
French or German	3	French or German	3	Mathematics 107	4	Mathematics 108	4
Mathematics 3	3	Mathematics 5	4	Physics 111	5	Physics 112	5
Mathematics 4	3	Electives, Group 1 or 2	3-6	Electives, Group 1 or 2	3	Electives, Group 1 or 2	3
Electives, Group 1 or 2	3	Mil. or Air Sci. 2	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Mil. or Air Sci 1	2	Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1
Phys. Educ.	1						
	16-18		14-17		16-18		16-18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Mathematics 240	3	Mathematics 235	3	Mathematics 251	3	Mathematics 252	3
Mathematics 246	3	Mathematics 243	3	Minor & Electives	12-15	Minor & Electives	12-15
Electives, Group 4 or 5	3	Electives, Group 4 or 5	3				
Minor & Electives	6-9	Minor & Electives	6-9				
	15-18		15-18		15-18		15-18

Courses of Instruction

Pre-College

The following two courses are offered to enable students to remove entrance conditions in mathematics. Each course meets three times per week throughout the school year. Neithr course carries University credit, although each is considered equivalent to three hours per semester in calculating student loads.

0. Elementary Algebra. I and II. ½ unit per semester. A two semester course equivalent to first-year high school algebra. Staff

1. Plane Geometry. I and II. ½ unit per semester. A two semester course equivalent to high school plane geometry. Staff

Lower Division

2. Algebra. I, II. 3 hr. 1 unit of algebra. Not open to students with credit for Math. 11. Staff

3. College Algebra. I, II. 3 hr. PR: 1½ units of algebra (or Math. 2) and 1 unit of plane geometry. Staff

4. Plane Trigonometry. I, II. 3 hr. PR: 1½ units of algebra (or Math. 2), and 1 unit of plane geomerty. Not open to students with credit for Math. 10. Staff

5. Analytic Geometry. I, II. 4 hr. PR: Math. 3 and 4. Staff

6. Arithmetic for Teachers. I, II. 3 hr. Staff

7. Solid Geometry. I, II. 3 hr. PR: Plane Geometry. Staff

8. Elementary Mathematics. I, II. 3 hr. PR: 1 unit of algebra. For students planning to major in Economics or Business Administration. Staff

10. Plane Trigonometry. II. 3 hr. PR: 1 unit of algebra and 1 unit of plane geometry. For students who do not plan to take calculus. Not open to students with credit for Math 4 . Staff

11. Mathematics for Agricultural Students. I, II. 3 hr. PR: 1 unit of algebra and 1 unit of plane geometry. Not open to students with credit for Math. 2. Staff

21. 22. Introduction to Mathematics. I, II. 3 hr. per semester. PR: 1 unit of algebra. Reasoning, development of elementary mathematics, function and limit concepts, topics in modern mathematics, the nature of mathematics and its relation to modern civilization. Mr. Peters

Upper Division

106. Descriptive Astronomy. II. 3 hr. PR: Math. 5. Mr. Cochran

107. Differential and Integral Calculus. I, II. 4 hr. PR: Math. 5. Staff

108. Differential and Integral Calculus. I, II. 4 hr. Continuation of Math. 107. Staff

130. Elementary Theory of Mathematical Statistics. II. 3 hr. PR: Math. 107. Staff

235. Foundations of Algebra and Analysis. II. 3 hr. PR: Math. 108 or consent. Development of the natural numbers, integers, rational, real and complex numbers from the axioms of Peano. Cardinal and ordinal arithmetic. The equivalence of the axiom of choice, Zorn's Lemma and the well ordering theorem. The algebra of classes. Mr. Posey

238. Modern Geometry. I. 3 hr. PR: Math. 108 or consent of instructor. For high school teachers. Extension of traditional Euclidean plane geometry. Geometry of points, lines, triangles, and circles; similarity, inversion, and polars. Mr. Cochran

239. Modern Geometry. II. 3 hr. PR: Math. 108. Introductory concepts of projective geometry. Principle of duality, harmonic sets, cross-ration, conics, involution, and metric properties of projective figures are considered synthetically. Mr. Cunningham

240. Differential Equations. I, II. 3 hr. PR: Math. 108. First course. Types of ordinary differential equations of first or higher degree and of first or higher order. Solutions and applications. Not open to students with credit for Math. 253. Mr. Davis

241. Theory of Determinants and Analytic Geometry of Space. I. 3 hr. PR: Math. 108. Properties of determinants; application to anayltic geometry of three dimensions. Types of algebraic surfaces, particularly quadratic surfaces: different coordinate systems. Mr. Davis

243. Projective Geometry. II. 3 hr. PR: Math. 246. Projective, affine, and metric geometries of the line, plane, and space; conics and quadries. Mr. Cunningham

244. Theory of Equations. II. 3 hr. PR: Math. 108. Complex numbers, Division, factorization and other properties of polynomials in a field. Theory of equations in the field of rational numbers; in the field of real numbers. Elimination, resultants, and symmetric functions. Algebraic extensions of a field. Algebraically closed fields. Ruler and compass constructions. Mr. Vest

245. Vector Analysis. I. 3 hr. PR: Math. 240 (or 253) and 252. Vector definitions and operations, differentiation, operator del, integration, generalized coordinates, irrotational and solenoidal vectors, electrostatic fields, potentials. Mr. Stewart

246. Introduction to Algebraic Theories. II. 3 hr. PR: Math. 108 or consent of instructor. Polynomials, elementary transformations on rectangular matrices, equivalence of forms and matrices, linear spaces, and matric polynomials; groups, rings and fields. Mr. Peters

247. Theory of Numbers. II. 3 hr. PR: Math. 108. Divisibility, distribution of primes, theory of congruences, theory of quadratic residues, arithmetical properties of the roots of unity. Diophantine equations, and the prime number theorem. Mr. Vehse

248. History of Mathematics. I. 3 hr. PR: Math 5. Ancient Near East arithmetic. Euclid's geometry. Algebras of Babylonians, of Cardano and Tartaglia, non-Euclidean geometry, Descarte's work, continuation of Newton, and Leibnitz. Mr. Stewart

251. Advanced Calculus. I. 3 hr. PR: Math. 108. Partial differentiation, Euler's theorem, Taylor's series, Jacobians; maxima and minima, Lagrange's multipliers; multiple integrals; line and surface integrals. Mr. Stewart

252. Advanced Calculus. II. 3 hr. PR: Math. 251. Continuation of Math. 251. Limits and indeterminate forms; infinite series; improper integrals; applications of uniform convergence; Gamma and Beta functions; Stirling's formula; Fourier series. Mr. Stewart

253. Advanced Course in Applied Mathematics. I. 3 hr. PR: Math. 108. Ordinary differential equations with emphasis on linear equations; infinite series, Fourier series, solutions of ordinary differential equations by infinite series. Applications to engineering problems. Not open to students with credit for Math. 240. Mr. Vest

254. Advanced Course in Applied Mathematics. II. 3 hr. PR: Math. 253. Elliptic integrals, Gamma and Bessel functions, partial derivatives, differentiation under integral sign, partial differential equations, vectors, applications to vibrating strings, heat flow, electrical flow. Mr. Vest

255. Mathematical Astronomy. II. 3 hr. PR: Math. 106 and 240. Development of the implications of Kepler's Laws and Newton's Law of gravitation. Mr. Cochran

261, 262. Special Topics. S. 1 hr. per term. PR: Math. 108 or consent of instructor. Primarily for teachers. Useful topics not covered in the regular required courses. Content may vary with the needs of the student. Staff

Graduate Division

308. Theory of Probability. I. 3 hr. PR: Math. 108. Fundamental theorems. Development of density and distribution functions in the discrete and continuous cases. Classical problems and solutions. Moments, characteristic functions, limit theorems. Applications. Mr. Stewart

309. Group Theory. II. 3 hr. PR: Math. 246 or consent of instructor. Order, index, coset, normal subgroup, factor group, homomorphism; direct product; fundamental theorem of Abelian groups; and Jordan-Holder theorem. Mr. Peters

311. Point-set Topology. I. 3 hr. PR: Math. 252. Transfinite cardinal numbers, well-ordered sets, transfinite ordinal numbers, closed and perfect sets, measurable point sets in Borel sense; applications to Riemann and Lebesgue integrals. Mr. Posey

312. Introduction to Combinatorial Topology. II. 3 hr. PR: Math. 252. Linear graphs, two-dimensional complexes and manifolds, n-dimensional complexes and manifolds, orientable manifolds. The fundamental group and certain unsolved problems. Mr. Posey

313. Advanced Differential Equations. II. 3 hr. PR: Math. 240 and 252. Second-order linear equations, Riccati equations, complex variables. Series solutions. Equations of Fuchsian type, hypergeometric equation, confluence of singularities. Classical equations, applications. Mr. Vest

314. Tensor Analysis. II. 3 hr. PR: Math. 252 and 245. Vector concept developed from standpoint of algebraic invariants, surface geometry, tensor operators, curvature tensor, Ricci and Bianchi identities, applications of tensors to physical phenoma. Mr. Stewart

315. Calculus of Variations. II. 3 hr. PR: Math. 240 and 252. Maximum and minimum value of an integral, shortest distance, the brachistochrone problem, surfaces of revolution of minimum area, conditions for a relative minimum. Applications. Mr. Vehse

351, 352. Algebraic Geometry. I, II. 3 hr. per semester. PR: Math. 243 and 246. Characteristic properties and representations of curves and surfaces; algebraic correspondences; linear systems; enumerative geometry. Mr. Cunningham

353. Linear Algebra. II. 3 hr. PR: Math. 246 or consent of instructor. Review of theory of groups and fields; linear vector spaces including the theory of duality; full linear group; bilinear and quadratic forms; and theory of isotropic and totally isotropic spaces. Mr. Peters

357. Fourier Series and Partial Differential Equations. I. 3 hr. PR: Math. 240 (or 253) and 252. Introductory material, partial differential equations of physics, orthogonal sets; solving boundary value problems by Fourier series and integrals; uniqueness of solutions; Bessel functions, Legendre polynominals. Mr. Vest

358. Operational Methods in Partial Differential Equations. II. 3 hr. PR: Math. 240 (or 253) and 252. Laplace transformation, properties and elementary applications; problems in partial differential equations, complex variable; problems in heat conduction, mechanical vibrations, etc. Sturm-Liouville systems. Fourier transforms. Mr. Vest

360, 361. Differential Geometry and Theory of Surfaces. I, II. 3 hr. per semester. PR: Math. 240, 241, 243. Metric properties of space curves and surfaces by differential methods. Parametric representation, curvature, torsion, trihedrons, geodesics, transformations, conformability, developability, ruled surfaces, etc. Mr. Davis

362, 363. Introduction to Modern Algebra. I, II. 3 hr. per semester. PR: Math. 246 or consent of instructor. Review of concepts from set theory and the system of natural numbers; semi-groups and groups; rings, integral domains and fields; extensions of rings and fields; elementary factorization theory; groups with operators; modules and ideals; and lattices. Mr. Peters

364, 365. Theory of Functions of Complex Variables. I, II. 3 hr. per semester. PR: Math. 240, 252. Complex numbers; functions of a complex variable; fundamental theorems of Cauchy; conformal representation with applications; analytic continuation; calculus of residues, Gamma, Bessel, and elliptic functions. Mr. Vehse

366, 367. Higher Plane Curves. I, II. 3 hr. per semester. PR: Math. 241, 243. Algebraic plane curves. General theory of curves, singularities, relationships, associated curves; detailed study of curves of third and fourth order. Mr. Stewart

372, 373. Line Complexes and Cremona Transformations. I, II. 3 hr. per semester. PR: Math. 241 and 243. Line coordinates, null system, systems of complexes, congruences, surface theory, and mapping. Plane Cremona transformations, introduction to general space theory, opportunities for research. Mr. Davis

374, 375. Algebraic Surfaces I, II. 3 hr. per semester. PR: Math. 243. Mapping of quadric, cubic, quartic, and quintic surfaces on the plane; space transformations, equivalence, postulation; curves on a surface, adjoint systems, invariants. Mr. Davis

376, 377. Theory of Functions of a Real Variable. I, II. 3 hr. per semester. PR: Math. 240 and 252. Review of elementary point set concepts. Necessary and sufficient conditions under which operations of previous analytical subjects are valid. Different theories of integration Mr. Cunningham

380. Thesis. I, II. 3 hr. Staff

NURSING EDUCATION

Associate Professor Oswald; Lecturer Christy

The Department of Nursing Education offers to graduate nurses a program which enables them to function more effectively as professional members of a democratic society.

Nursing Education has as its main objectives the preparation of students to meet the challenges presented in the varied, important, and increasing activities in the expanding field of health; the development in students of a wide interest in social and professional problems, with an ability to share in their solution for increased and enriched professional usefulness; and the preparation of students for democratic leadership and creative service through varied types of guided learning experiences in Nursing Education.

Pre-Nursing Curriculum

Students interested in professional nursing as a career and who plan to enter a collegiate school of nursing may take one, two or more years of general college work as given on page 129.

Bachelor of Science in Nursing Education

Admission Requirements: Applicants for admission to the Department of Nursing Education must: (1) Meet the requirements for admission to the College of Arts and Sciences; (2) be graduated from a state accredited school of nursing; (3) be registered in one state or hold a temporary permit pending registration; (4) have experience in institutional, public health, or private-duty nursing; and (5) take a graduate nurse qualifying examination, the result of which will be used to plan individual programs and as a guide to advanced standing.

Advanced Standing: Graduates of accredited schools of nursing may matriculate for this degree with advanced standing. Advanced standing may be granted for the following: (1) Basic nursing program in an accredited school of nursing. Each student's record will be evaluated individually and advanced standing given according to the content and quality of classroom and clinical instruction and experience. An official transcript of the school of nursing record must be sent to the Registrar. Students who desire to matriculate with advanced standing should request a School of Nursing transcript form when they apply for admission. Thirty semester hours represent the average advanced standing allowed for a satisfactory basic diploma program in a hospital school of nursing. (2) Military credit—basic, eight and advanced, six nonduplicate semester hours may be allowed for military service in World War II and Korea upon presentation of separation papers to the Registrar. (3) Credit for required courses completed in other accredited colleges or universities may be accepted for credit. Official transcripts of records of work must be sent to the University Registrar by other colleges, universities, or schools of nursing.

Program Requirements: Candidates for the degree of Bachelor of Science in Nursing Education are required to complete at least 128 semester hours of credit with 265 grade points. The Nursing Education major includes at least 24 semester hours of professional or allied professional courses, 54 semester hours of general academic, scientific, education, and social subjects; a total of 58 semester hours of upper-division courses, including the 24 hours required for the major, the 9 hours required for the minor, and the electives necessary to total 128 semester hours required for a Bachelor of Science Degree. With departmental approval, certain courses in education, sociology, social work, or psychology, may be counted toward the major in Nursing Education.

REQUIRED COURSES

1. *General Education Courses Required*:

English Composition 1 and 2	6 hr.
English (any upper-division courses)	6 hr.
Foreign Language (any one foreign language)*	12 hr.
Science (any one Physical or Biological Science)	8 hr.
Sociology 102 or 1 (and any other upper-division course)	6 hr.
Psychology 1 or 3 (and any other upper-division course)	6 hr.
History 1 and 2 (or Humanities 1 and 2—8 hr.)	6 hr.
Physical Education	4 hr.

*Or two units for entrance and six hours in the same language.

2. *Professional Courses Required*:

101—Introduction to Nursing Education or	
102—Principles and Methods of Teaching Nursing	3 hr.
103—Trends in Nursing	3 hr.
104—Ward Management and Teaching	3 hr.
107— Guidance in Nursing	3 hr.
OR	
117—Interpersonal Relations Applied to Nursing	3 hr.
108—The Nurse and Community Relationships	3 hr.
113—Legislation and Jurisprudence Affecting Nursing	3 hr.
Social Work 212. Community Social Welfare Resources	2 hr.
Electives in Nursing Education or closely allied subjects	4 hr.
	24 hr.

3. Major in Nursing Education: The non-specialized program leading to the degree of Bachelor of Science in Nursing Education was established to provide an opportunity for more thorough preparation of qualified graduate nurses to administer and supervise nursing services in a hospital unit. Such a program is fundamental to the understanding of administration, teaching and supervision, and serves as a basis for future graduate study, including clinical specialties. The major program offered at present is: "Management Of and Teaching In a Head Nurse's Unit."

Courses of Instruction

Upper Division

101. Introduction to Nursing Education. I, II. 3 hr. PR: Psychology. Consent. An orientation course designed as an introduction to the philosophy, basic principles, methods and organization underlying all fields of nursing, with emphasis upon teaching, supervision, and administration in schools of nursing. Miss Oswald

102. Principles and Methods of Teaching Nursing. II. 3 hr. PR. N.E. 104, consent. A study of basic principles and methods of teaching from the standpoint of Nursing Education, and application to nursing situations, with emphasis on teaching of nursing, planning, construction, and evaluation of units of work and instruction. Mrs. Christy

103. Trends in Nursing. I, II. 3 hr. PR: Consent. A prologue to the future in the study of rapid professional and social changes, of recent developments, of new perspectives, and of current problems in the struggle to achieve professional maturity in all fields of nursing, and of allied professions in their relation to the nurse, to professional organizations, and progress. Miss Oswald

104. Ward Management and Teaching. I, II, S. 3 hr. PR: Consent. A study of the basic principles underlying good ward management; effective supervision; efficient bedside and ward teaching; and the total patient care in the maintenance of high quality nursing service. Evaluation of staff and students' competencies as applied to good nursing care. Discussion of the Head Nurse's responsibility for personal growth and development, and for civic and social obligations as a professional citizen and nurse in the community. Mrs. Christy

106. Historical Foundations of Nursing. II. 3 hr. PR: None. A historical study and review of the origins, aims and growth of nursing, with special emphasis on the development of the professional, public health, educational and international aspects of nursing. Discussion materials wherever possible will be selected on the basis of students' interests. Miss Oswald

107. Guidance in Nursing. I, II. 3 hr. PR: None. A study of guidance principles and procedures applied to the needs and problems confronting students and graduate nurses in hospitals and schools of nursing. Staff

108. The Nurse and Community Relationships. I, II. 3 hr. PR: None. Designed to meet the challenge of today. "A Guide to Health," to increase professional and social usefulness by playing well the nurse's role on the Health Team wherever it may operate, in homes, in institutions, agencies, or the community. Miss Oswald

110. Evaluation Methods in Nursing Education. II. 3 hr. PR: N.E. 101 or 102, 104, psychology, and consent. To provide a better understanding of basic aims and scientific principles of nursing care of the whole patient as a member of society. Underlying educational principles applied to the selection, organization, and evaluation of the units of instruction, and the teaching methods in the introduction of nursing. Staff

111. Personnel Policies and Practices. I. 3 hr. PR: Consent. Every professional nurse, active or inactive, wants to know "Why the Wheels Go Around"—the basis of their own economic security, the essence of democratic administration, the assurance of quality nursing care, of real joy in service, with renewed hope and happiness to her patient. The What, the Why, and the How of personnel policies and practices help find these and many other helpful answers. Mrs. Christy

112. Nursing Procedures and Routines. II. 3 hr. PR: Consent. A critical study of Nursing procedures and routines already established to find ways to advance, to reinforce, and to keep abreast of new procedures. Emphasis on effective means of evaluation, construction, and administration of nursing procedures and routines—A splendid "refresher" for inactive nurses. Mrs. Christy

113. Legislation and Jurisprudence Affecting Nursing. I, II. 3 hr. PR: None. A survey of current legislation affecting nursing, including the State Board of Nurse Examiners and other state and federal legislation as it relates to nursing and nursing education. A critical study of jurisprudence and the legal aspects of nursing. Miss Oswald

114. New Developments in Nursing. S. 1-3 hr. PR: Consent. Designed as a work conference around the general theme of Improving Basic Nursing Education. Developed around such areas as teaching techniques, curriculum planning, social and health integration, and counseling and guidance technique effective in nursing. Staff

115. Problems in Nursing. S. 1-3 hr. PR: Consent. This course is planned to meet needs and interests of nurses active in Public Health, Industrial, and Institutional Nursing. Staff

116. Special Topics. 1-3 hr. PR: Consent. Designed to provide material for work conferences or formal classes in topics such as: Interpersonal and Public Relations, Supervision and Teaching in Nursing for Hospital, Public Health, and Industrial Groups; Rehabilitation; Long-term, Chronic Illness; Communication Competency; and other topics to meet current and critical needs of professional nurses, their patients, and community. Staff

117. Interpersonal Relations Applied to Nursing. II, S. 3 hr. PR: Consent. To become a better nurse by learning more about personality development; why people react as they do; and how the nurse may help herself and others "face the Don'ts" and "accept the Do's" in life's situations through good mental health. Mrs. Christy

200. In-Service Education in Nursing. II, S. 3 hr. PR: None. A study of staff education programs in the various fields of nursing, including orientation programs to institutions, agencies and special services. Staff

201. Growth and Adjustment Related to Health. S. 3 hr. PR: N.E. 101, Psychology 122. Consent. Designed to study the relation of social, intellectual, physical, and emotional development throughout life. Emphasis upon those principles basic to professional nursing practice in all fields. Staff

PHILOSOPHY AND PSYCHOLOGY

Professors Curtis and Cresswell; Associate Professor Minor; Assistant Professors Carruth, Cross, and Shafer; Instructors Brackman, Decker, Fox, Rankin and Rudin.

Philosophy

Philosophy has two main functions: (1) critical analysis of basic concepts, ideas, ideals, and beliefs; (2) organization of knowledge, and the development of patterns of tested belief for guidance of individual and institutional conduct.

Courses in philosophy are especially useful: (1) as a valuable background for policy-making positions in government, business, schools, and church; (2) as a preparation for work in the field of religion; (3) as an indispensable foundation for graduate training leading to teaching and research in philosophy; (4) as a general education providing conditions for the organization of knowledge and a clearer recognition of values.

PROGRAM FOR PHILOSOPHY MAJORS

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Philosophy 4	3	Art, Lib. Sci. or Speech	3	History 1 or Humanities 1	3-4	History 2 or Humanities 2	3-4
English 1	3	English 2	3	Foreign Lang.	3	Foreign Lang.	3
Foreign Lang.	3	Foreign Lang.	3	Economics, Pol. Sci. or Soc. Sci.	3-4	Economics, Pol. Sci. or Soc. Sci.	3-4
Laboratory Sci.	4	Laboratory Sci.	4	Psychology 1 (unless 3, 4 already taken)	3	Literature or Mathematics	3
Phys. Educ.	1	Phys. Educ.	1	Literature or Mathematics	3	Mil. or Air Sci. 4	2
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Mil. or Air Sci. 3	2	Phys. Educ. (women)	1
				Phys. Educ. (women)	1		
	16		16		16-19		16-19

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Philosophy 107	3	Philosophy 108	3	Philosophy 112	3	Philosophy 113	3
Philosophy Electives	3	Philosophy Electives	3	Philosophy Electives	3	Philosophy Electives	3
Minor Subject	3	Minor Subject	3	Minor Subject	3	Minor Subject	3
Upper Division Electives*	6-9	Upper Division Electives*	6-9	Upper Division Electives*	6-9	Upper Division Electives*	6-9
	15-18		15-18		15-18		15-18

At least 9 hrs. of work are to be chosen from each of the groups below:

a) Philosophy 106, 112, 113, 205, 208, 218.

b) Philosophy 107, 108, 114, 115, 118, 221.

*The following courses are highly recommended as cognate electives. A maximum of six hours from this list may be counted toward the major, with the adviser's consent, provided that at least 18 hours of philosophy courses are taken within the department: Economics, 210, 222; English 220, 225; History 276, 290, 291; Political Science 170, 171, 272, 273.

PSYCHOLOGY

Courses in psychology are designed for one or more of the following ends: to promote a better understanding of human nature and behavior; to lay a foundation for graduate professional training; and to inculcate useful skills of psychological technology.

PROGRAM FOR PSYCHOLOGY MAJORS

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Foreign Lang.	3	Foreign Lang.	3
Foreign Lang.	3	Foreign Lang.	3	Biology 1 or Zoology 1	4	Biology 2 or Zoology 2	4
Psychology 3	4	Psychology 4	4	Psychology 103	3	Psychology 104	3
History 1 or Humanities 1	3-4	History 2 or Humanities 2	3-4	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Phys. Educ.	1	Phys. Educ. (women)	1	Phys. Educ. (women)	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Economics* or Soc. Sci.	3-4	Economics* or Soc. Sci.	3-4
				Literature or Mathematics	3	Literature or Mathematics	3
	14-17		14-17		17-19		17-19

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Psychology 130	3	Psychology Electives	6	Psychology Electives	6	Psychology Electives	6
Psychology Electives	3	Minor Subject	3	Minor Subject	3	Minor Subject	3
Speech 11	3	Philosophy 4 or 104	3	Upper Division Electives	6-9	Upper Division Electives	6-9
Minor Subject	3	Upper Division Electives	3-6				
Upper Division Electives	3-6						
	15-18		15-18		15-18		15-18

*Economics 1 and 2 should be taken by those planning to enter personnel work or to minor in Economics.

Courses of Instruction

PHILOSOPHY

Lower Division

4. Introduction to Philosophy. I, II. 3 hr. Study of living issues in the field of philosophy: (1) philosophic development of scientific methods for gaining knowledge; (2) fundamental moral, aesthetic, and religious values for guidance in wise use of knowledge. Mr. Minor

Upper Division

104. Principles of Philosophy. I, II. 3 hr. An examination of two types of philosophy, naturalism and idealism, the consequences of which are in frequent conflict today. A first course in philosophy primarily for juniors and seniors. (Not for those who have credit for Philosophy 4.) Mr. Chesswell

106. Logic. I. 3 hr. PR: Phil. 4 or 104. An examination of formal reasoning and scientific methods as means for attaining reliable knowledge. Mr. Cresswell

107. Fundamentals of Ethics. I. 3 hr. PR: Phil. 4 or 104. A search for the meaning and nature of right and wrong, the good and the bad in human conduct: (1) nihilism, the denial of ethics; (2) traditional theories of ethics; (3) recent research. Mr. Minor

108. Social Ethics. II. 3 hr. PR: Phil. 4 or 104. Critical analysis of conflicting social policies operating in family, educational, religious, economic, and political institutions in the interest of developing consistent principles for guidance of all institutions. Mr. Minor

110. Philosophy of Science. II. 3 hr. PR: Phil. 4 or 104. An examination of the methods, presuppositions, and concepts of modern science. For students interested in the influences of science on contemporary thought and society. Staff

112. History of Ancient and Medieval Philosophy. I. 3 hr. PR: Phil. 4 or 104. The history of philosophy brings together in connected form the ideals prized by the several periods in Western civilization which give meaning to the religious, political, social and literary achievements of each period. The first semester course ends with the 6th century. Mr. Cresswell

113. History of Modern Philosophy. II. 3 hr. PR: Phil. 4 or 104. Continuation of Philosophy 112, through the 19th century. Mr. Cresswell

114. Contemporary Philosophy. I. 3 hr PR: Phil. 4 or 104. Critical study of Supernaturalism, Idealism, and Naturalism as systems for the guidance of man. Mr. Minor

115. Contemporary Philosophy. II. 3 hr. Phil. 4 or 104. Critical study of humanism, existentialism, and organicism as systems for the guidance of man. Mr. Minor

118. Philosophy of Art. I. 3 hr. PR: Phil. 4 or 104. Study of Aesthetics which examines the meaning and nature of art and beauty. Critical analysis of principles to guide the development of aesthetic perception, form, expression, and use in fine, industrial, and professional arts. Mr. Minor

205. Oriental Religions and Philosophies. I. 3 hr. PR: Two courses in philosophy, or consent of instructor. An account of the religions of India, China and Islam with their supporting philosophies; and the influence of the major Oriental world views on the Western World. Mr. Cresswell

208. Philosophy of Religion. I or II. 3 hr. PR: Two courses in philosophy. An attempt to discover the logically defensible foundations of religion. Mr. Cresswell

217. Metaphysics. I or II. 3 hr. PR: Phil. 4 or 104, 112 or 113. Study of a selected system of philosophy. Staff

218. Epistemology. II. 3 hr. PR: Phil. 4 or 104, 106. Nature, scope and validity of human knowledge. Mr. Cresswell

221. Axiology. II. 3 hr. PR: Phil. 4 or 104 and 107 or consent. Study of the origin, nature, and growth of value as the basis of intelligent development of normative disciplines including the applied sciences, law, art, religion. Mr. Minor

305. Philosophy of History. II. 3 hr. PR: Phil. 4 or 104, 106, a knowledge of the history of western civilization and consent of the instructor. Various theories of historical development, such as the Christian, the Marxian, the Oriental. An examination of the question whether there is meaning in the course of human history. Mr. Cresswell

PSYCHOLOGY

Lower Division

1. Introduction to Psychology. I, II. 3 hr. Principles of general psychology for non-majors. (Not for those who have credit for Psychology 3 and 4.) Staff

3, 4. General Psychology. I, II. 4 hr. Open to freshmen. Three hours of lecture and two hours of laboratory a week. Fundamentals of general psychology for majors or those using psychology to satisfy laboratory science requirement. Staff

20. Psychology of Personal Efficiency. I, II. 2 hr. For students whose scholastic achievement is below capacity. Diagnostic and remedial practice in areas which hamper personal or academic efficiency. For freshmen and sophomores; others by consent. Staff

Upper Division

110. Applied Psychology. II. 3 hr. PR: Psych. 1 or 3 and 4. Applications of psychology in fields of law, medicine, education, and business. Mr. Cross

114. Psychology in Personnel Work. I. 3 hr. PR: Psych. 1 or 3 and 4. Techniques for selecting and placing personnel; job and worker analysis and classification; interviewing; employment tests, merit rating, job evaluation. Mr. Decker

115. Psychology in Industry. II. 3 hr. PR: Psych. 1, or 3 and 4. Job training, leadership training, motivation and morale, human relations, safety, industry and society. Mr. Curtis

116. Social Psychology. I. 3 hr. PR: Psych. 1, or 3 and 4. A study of the social factors which determine human behavior. The relationship of class, race, culture, social structure and other group phenomena to individual behavior. Other topics include: attitudes, public opinion, propaganda, mass media of information and national character. Mr. Rankin

122. Child Psychology. I. 3 hr. PR: Psych. 1, or 3 and 4. Growth trends in child behavior, including development in the physical, intellectual, emotional, social and personality areas. Mr. Rudin

125. Mental Hygiene. I or II. 3 hr. Man's personality, needs and emotions as they relate to effective living in a modern world. Emphasis on those factors which lead to healthy psychological adjustment. A course useful for students in all curricula. Mr. Rudin

130. Statistical Methods in Psychology. I. 3 hr. PR: Psych. 1, or 3 and 4. Analysis and interpretation of psychological data. Mr. Brackmann

201. Physiological Psychology. I or II. 3 hr. PR: Psychology 3, 4, and Zoology 171 or equivalent. The organic basis for psychological activities such as perseption, emotion, motivation, and learning. Mr. Shafer

205. Individual Differences. 2 hr. II. PR: One course in psychology. Nature and extent of the differences among individuals in psychological traits such as intelligence and personality, as influenced by heredity, schooling, age, sex, culture. Primarily for students in psychology and education. Mr. Cross

206. Learning and Motivation. I or II. 3 hr. PR: Psychology 3 and 4 or equivalent. Survey of experimental data in the area of learning and motivation. Special emphasis on contemporary learning theory. Mr. Shafer

214. Job Analysis. I or II. 3 hr. PR: Psych. 114 or 115 or M.E. 140. Instruction and supervised practice in preparation and use of job analyses. For students of psychology, engineering, management, or rehabilitation counseling. Mr. Cross

216. Attitudes and Propaganda. II. 3 hr. PR: Psych. 1 or 3 and 4, or consent. Includes: the nature of attitudes and opinions, attitude measurement, opinion changing, propaganda use and analysis, the social psychology of mass media, democratic values and public opinion. Designed to meet the needs of students from a variety of fields as well as Psychology . . . . especially Sociology, Political Science and Journalism. Mr. Rankin

218. Psychology of Personality. I or II. 3 hr. PR: Psych. 1 or 3 and 4. Development of personality from infancy through maturity to old age with special reference to factors which shape it; theories of personality structure, personality adjustment. Field trip and demonstrations. Mr. Rankin

222. Psychology of Adolescence. II. 3 hr. PR: Two courses in psychology or consent. Study of psychological, social, cultural, physiological influences on personality during the period of adolescence, leading toward a deeper understanding of the adolescent. Mr. Rudin

225. Group Psychometric Testing. I. 3 hr. PR: Psych. 1, or 3 and 4, and 130. Theory underlying the construction of group tests of intelligence, aptitudes, interests, personality, and attitudes. Practice in administering, scoring, and interpreting them. Mr. Cross

226. Advanced Experimental Psychology. II. 3 hr. PR: Psych. 3, 4, 130. Lectures and laboratory. Design of psychological experiments; psychophysics of audition and vision. Mr. Brackmann

229. Abnormal Psychology. II. 3 hr. PR: Psych. 1, or 3 and 4. A consideration the major behavior anomalies, e. g., schizophrenia, psychopathic personality, organic psychoses, etc., and the various psychological, chemical, surgical, and medical treatments thereof. Field trip to mental hospital and demonstrations. Mr. Carruth

233. Problem Children. II. 3 hr. PR: Child or Educational psychology. Study of children who present psychological problems because of (1) exceptional mental retardation or advancement; (2) organic disabilities having behavioral consequences, such as cerebral palsy or deafness; (3) disorders of conduct associated with a typical personality functioning. Of special interest to those who regularly deal with children as teachers, nurses, etc. Mr. Rudin

234. Problems in Child Psychology. II. 3 hr. PR: Psychology 122. Students will select individual problems in child behavior. Staff

236. Psychology of Adjustment. I. 3 hr. PR: Psych. 1, or 3 and 4, or consent. Dynamic principles of human personality adjustment. Mr. Carruth

240. History of Psychology. II. 3 hr. PR: Psych. 1, or 3 and 4. Traces the development of the science and concepts of psychology from their origin in philosophy, physiology and medicine up to the modern era. Mr. Brackmann

242. Advanced Social Psychology. 3 hr. PR: Psych. 116 or graduate status. A consideration of contemporary theory and practice in social psychology. Mr. Rankin

245, 246. Seminar. I, II. 1 or 2 hr. Critical study of selected topics. Staff

260. Statistical Methods in Psychology. II. 3 hr. PR: Psych. 130 or equivalent. Sampling theory, probability, further parametric and non-parametric statistics. Required for Master's degree. Mr. Brackmann

Graduate Division

301, 302. Special Problems in Research. I, II. 1-3 hr. per semester. Staff

303, 304. Thesis. I, II. 2-3 hr. per semester. Staff

310. Projective Techniques. I or II. 3 hr. PR: Psych. 224, 236, and consent. Survey of the projective techniques used in psychodiagnostics, including the Thematic Apperception Test, the Szondi Test, and the Rorschach Test. Special emphasis will be given the Rorschach Test. Mr. Carruth

311. Practicum in Projective Techniques. I or II. 3 hr. PR: Psychology 310 or equivalent. Supervised practice in scoring and interpretation of the Rorschach Ink Blot Test and the Thematic Apperception Test. Mr. Carruth

316. Counseling and Psychotherapy. I or II. 3 hr. PR: Psychology 224 and 229 or equivalent. Principles underlying Freudian and non-directive therapy, play therapy and psychodrama. Mr. Carruth

317. Practicum in Counseling and Psychotherapy. I or II. 3 hr. PR: Psychology 316 or equivalent. Supervised experience in psychotherapeutic techniques used by the psychologist in a clinic setting. Mr. Carruth

324. Individual Intelligence Testing. II. 4 hr. PR: Psychology 122 and 225, or Education 114 and 375, and consent. Theory and practice in Binet, Wechsler, and other individual tests of mental status. Mr. Carruth

330. Systems of Psychology. II. 3 hr. PR: Psych. 1, or 3 and 4, and one course in philosophy. Mr. Curtis

331. Theory Construction. II. 3 hr. Problems and techniques of organizing the data of psychology; philosophical background, problems of definition, logical structures and techniques employed. Mr. Brackmann

338. Clinical Psychology. II. 4 hr. PR: Psych. 224 and consent. Supervised practice in the use of psychological techniques in a clinic setting. Mental testing, interviewing parents, personality diagnosis, test interpretation and reports, play techniques with children, case presentations at staff meetings. Emphasis is on the multi-discipline approach at the University Counseling Center. Mr. Carruth

345, 346, 347, 348. Seminar. I, II. 1 or 2 hr. Critical study of selected topics. Staff

350. Practicum in Student-Personnel Psychology. II. 1-3 hr. PR: Psych. 236 or consent. Diagnostic and remedial techniques for dealing with reading and work-study-skill efficiency, and personal-social-emotional adjustment. Mr. Carruth

351. Practicum in Student-Personnel Psychology. I or II. 1-3 hr. Directed practice in student-personnel counseling. Continuation of Psych. 350. Mr. Carruth

352. Practicum in Vocational Appraisal. I, II. 1-3 hr. PR: Consent. Principles and procedures in appraising educational and vocational fitness. Supervised practice in testing and counseling college students presenting educational and vocational problems. Mr. Cross

PHYSICS

Professors Ford and Thomas; Assistant Professors Buchanan, Gunton, Ollom, and Williamson; Instructor Farr.

Various courses offered in Physics are designed to meet the needs of students of the Colleges of Arts and Sciences, Agriculture, Education, Engineering, and Pharmacy.

Suggested Curriculum for A.B. with Major in Physics

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Phys. Educ.	1	Math. 107	4	Math. 108	4
Eng. 1	3	Eng. 2	3	Physics 109	2	Physics 110	2
Math. 3	3	Math. 5	4	Chem. 1	4	Chem. 2	4
Math. 4	3	French or		French or		*Elective	3
Physics 1†	4	German	3	German	3	Elective	3
		Physics 2†	4	*Elective	3		
	16		17		17		18

†An alternative is Chem. 1 and 2 in the freshman year in place of Physics, with Physics 111 and 112 in the sophomore year.

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Math. (200)	3	Math. (200)	3	Physics (200)	3	Physics (200)	3
Physics (100)		Physics (100)		Physics (200)	3	Physics (200)	3
(or 200)	3	(or 200)	3	Physics (200)	3	Physics (200)	3
Physics (200)	3	Physics (200)	3	Elective	3	Elective	3
*Elective	3	*Elective	3	Elective	3	Elective	3
*Elective	3	*Elective	3	Seminar		Seminar	
Elective	3	Elective	3				
Seminar		Seminar					
	18		18		15		15

*Electives must include:
6 hrs. of History or Humanities.
6 hrs. of Economics, Political Science, or Social Science.
3 hrs. of Art, Home Economics, Library Science, or Speech.
3 hrs. of Geography, Philosophy, Sociology or Laboratory Science.
Physics 249, 250, 231, 232, 233, 234, are required for graduation.
E.E. 250, 252, and a second language (French, German or Russian) are recommended electives.

Courses of Instruction

Lower Division

1. Introductory Physics. I. 4 hr. PR: Plane geometry and algebra. Required of all students whose curriculum calls for introductory physics. Mechanics, sound, heat. Staff

2. Introductory Physics. II. 4 hr. PR: Physics 1. Electricity, magnetism, and light. Staff

Upper Division

109, 110. A Problems Course in General Physics. I, II. 2 hr. per semester. Pre- or corequisite: Calculus. Open to students who have taken Introductory Physics or equivalent; not open to students who have taken General Physics. Mr. Williamson

111. General Physics. I, II. 5 hr. Pre- or corequisite: Calculus. Required of all candidates for engineering degrees and recommended for all students who major in mathematics. Not open to students who have credit for Introductory Physics. Mechanics, sound, and heat. Staff

112. General Physics. I, II. 5 hr. Continuation of Physics 111. Not open to students who have credit for Introductory Physics. Light, electricity and magnetism. Staff

113, 114. Introductory Electronics. I, II. 3 hr. per semester. PR: 1 year of college physics. Staff

116. Photography. II. 3 hr. PR: 1 year of college physics, 1 year of college chemistry. The physics and chemistry of photography with practical applications. Mr. Farr

117. Descriptive Meterology. I. 3 hr. PR: 1 year of college physics. Description of the atmosphere and its weather. Reading and analysis of weather maps. Weather observations. Mr. Williamson

118. Physical Meterology. II. 3 hr. PR: Physics 117 or equivalent. The physics of the atmosphere. Analysis of surface and upper air charts. Forecasting. Mr. Williamson

221. Optics. II. 3 hr. PR: 10 hours of college physics, calculus. Work in optical instruments, spectrometry, interferometry, and polarization. Mr. Ford

225, 226. Introduction to Modern Physics. I, II. 3 hr. per semester. PR: 10 hours of college physics, calculus. Particle analysis, phenomena connected with the structure of the atom. Mr. Ford

231, 232. Theoretical Mechanics. I, II. 3 hr. per semester PR: 10 hours of college physics, calculus. Theorems and problems in intermediate mechanics. Mr. Gunton

233, 234. Introductory Electricity and Magnetism. I, II. 3 hr. per semester. PR: 10 hours college physics, calculus. Electrostatics, magnetostatics, network analysis, introduction of electrodynamics, and applications. Mr. Ollom

241, 242. Physics Seminar. I, II. No credit. Required of Junior, Senior, and Graduate physics majors. Staff

249, 250. Intermediate Laboratory. I, II. 3 hr. per semester. PR: 10 hours of college physics, calculus. Detailed techniques in experimental physics. Mr. Ford

255, 256. Work Shop for Physics Teachers. S I, S II. 2 hr. PR: 10 hours of college physics, 1 year college mathematics. Selected topics in modern physics. Primarily for Education majors, not open to physics majors. Staff

257. Photography. S I. 3 hr. PR: One year of physics or equivalent. Primarily for Education majors, not open to physics mapors. Mr. Farr

258. Light. S II. 3 hr. PR: One year of physics or equivalent. Primarily for Education majors, not open to physics majors. Mr. Ford

261, 262. Molecular Physics. I, II. 3 hr. per semester. PR: Physics 225, 226. Molecular spectra, molecular structure and solid state physics. Mr. Gunton

283. Thermodynamics. I. 3 hr. PR: 10 hours of college physics, calculus. Application of First and Second Laws of Thermodynamics to physical systems. Mr. Gunton

284. Kinetic Theory. II. 3 hr. PR: 10 hours of college physics, calculus. Boltzman distribution, viscosity, diffusion, thermal conductivity, specific heat. Mr. Buchanan

287, 288. Introduction to Mathematical Physics. I, II. 3 hr. per semester. PR: 10 hours of college physics, calculus. Boundary value problems in vibration, heat conduction, hydrodynamics, special relativity. Mr. Thomas

Graduate Division

371, 372. Advanced Classical Mechanics. I, II. 3 hr. PR: Calculus, Physics 231, 232. Lagrangian and Hamiltonian formulations of mechanics, Hamilton-Jacobi theory, small oscillations. Mr. Ollom

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hour per semester, maximum credit 2 hours. (In cooperation with other departments and the U. S. Bureau of Mines). Staff

381, 382. Physical Optics. I, II. 3 hr. per semester. PR: Physics 221, differential equations. Mr. Ford

385, 386. Quantum Mechanics. I, II. 3 hr. per semester. PR: Physics 225, 226. Schrondinger's equations, hydrogen atom, perturbation, molecular forces. Mr. Thomas

387, 388. Differential Equations of Physics. I, II. 3 hr. per semester. PR: Physics 287, 288, differential equations. Application of differential equations to physical problems. Mr. Thomas

389, 390. Nuclear Physics. I, II. 3 hr. per semestr. PR: Physics 225, 226. Theory of nuclear forces, transformation, energy levels. Mr. Buchanan

391, 392. Advanced Electricity and Magnetism. I, II. 3 hr. per semester. PR: Physics 233, 234, differential equations. Wave propagation, electrodynamics of charged particles. Mr. Thomas

397, 398. Research. I, II. 1-6 hr. per semester. PR: Consent of supervising instructor. Staff

POLITICAL SCIENCE

Professors Frasure, Stewart, and Sturm; Assistant Professors Mann, Ross, White, and Williams.

NATURE AND OBJECTIVES OF THE POLITICAL SCIENCE CURRICULUM

The political science curriculum provides a systematized course of study of the origin, basis, and nature of the state in its many and varied aspects. These include: principles, organization, and structure of political institutions, both domestic and foreign; the processes and functioning of government; interrelationships between the political institution on various levels of government; political behavior; the control of government instrumentalities and the means for holding its agents responsible; and the identification and analysis of public problems falling within the range of government. Course offerings in the Department of Political Science provide a basic general knowledge of the field, as well as more extensive and intensive training in the specialized areas of political science, particularly on the senior and graduate levels.

Primary departmental objectives may be classified under four principal headings as follows:

1. To develop an understanding of the role of government in modern society, thus contributing to a general, liberal education and to preparation of students for informed citizenship in a democracy.
2. To impart a basic knowledge and understanding of the techniques and processes of government and administration to those persons who look forward to a career in the public service.
3. To provide pre-professional training for students who are preparing to enter the legal profession.
4. To provide advanced and specialized instruction, as far as the Master of Arts degree, for persons who wish to enter teaching or research in the field of political science.

The political science curriculum, therefore, enables the major in this field to gain an understanding of the political society in which he lives and also to plan his academic program so as to prepare himself for a career of public service.

REQUIREMENTS FOR MAJORS

A. *The Undergraduate Major*

Hours. Undergraduate majors in political science are required to take at least twenty-six hours of upper-division course work in the department. There must be a first minor consisting of twelve hours of upper-division courses, normally in history, economics, sociology, psychology, or philosophy, and a second minor of six hours of upper division work in a related field.

Required Courses. Each undergraduate major is required to take Political Science 1 (3 hrs.) or 2 (3 hrs.) and Political Science 200 (2 hrs.) Departmental majors are encouraged to take both Political Science 1 and 2.

Distribution of Courses. The major in political science should work out his program in such a way as to secure a well-rounded knowledge of the field, as well as to concentrate in some particular area. Although the twenty-six hours of upper-division work in political science is the minimum requirement, students should take at least thirty-two hours.

The following are distribution requirements for an undergraduate major in political science:

1. At least one upper-division course in each of the six groups into which the offerings of the department are divided.
2. At least three upper-division courses in some one group.

Grouping of Upper-Division Courses by Fields

I. *American National, State and Local Government*
Political Science 111, 113, 120, 210, 211, 213, 221, 225, 226, 310-311, 320-321, 325-326.

II. *Politics and Policy Development*
Political Science 130, 231, 232, 233, 234, 330-331.

III. *Public Administration*
Political Science 140, 241, 242, 243, 244, 245, 346-347.
IV. *Foreign and Comparative Government*
Political Science 150, 250, 251, 252, 253, 254, 255, 256, 351-352.
V. *International Relations, Organizations and Law*
Political Science 160, 261, 262, 263, 264, 361-362.
VI. *Political Theory*
Political Science 170, 171, 272, 273, 274, 375-376.

Courses Suggested for Political Science Majors

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Laboratory Sci.	4	Laboratory Sci.	4
Foreign Lang.	3	Foreign Lang.	3
Electives, Group 1	3-4	Electives, Group 1	3-4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Phys. Educ.	1	Phys. Educ.	1
	14-17		14-17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Pol. Science 1	3	Pol. Science 2	3
Foreign Lang.	3	Foreign Lang.	3
History 52	3	History 53	3
Economics 1	3	Economics 2	3
Psychology 1 or Sociol. 1	3	Philosophy 4	3
		Electives	1-2
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Phys. Educ.	1
	16-17		16-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Pol. Science 150	3	Pol. Science 120	3
Pol. Science electives	3-6	Pol. Science electives	3-6
Elective, Group 3	3	Elective, Group 3	3
Elective, Group 4	3	Elective, Group 5	3
Elective, minors	3	Elective, minors	3
	15-18		15-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Pol. Science 170	3	Pol. Science 171	3
Pol. Science 200	2	Pol. Science electives	3-6
Pol. Science elective	3-6	Electives, minors	6-9
Electives, minors	6-9		
	17-18		15-18

Courses of Instruction

Lower Division

1. Elements of Democratic Government. I, II. 3 hr. Introduction to government. Origin, forms, and functions of the state; organization and forms of government; and the relations of groups and individuals to the state. Primarily for freshmen. Mr. White

2. The American Federal System. I, II. 3 hr. A survey course in American national government. Intended primarily for freshmen and sophomores. Staff

Upper Division

101. Introduction to Government. I, II. 3 hr. (Exclusively for students in the College of Agriculture and the College of Engineering). A consideration of the basic principles and operation of national, state, and local government in the United States. Staff

111. Functions of American National Government. I. 3 hr. The activities of the executive branch of government, particularly as they relate to social and economic development; expansion of governmental activities and services since 1932. Mr. Ross

113. American Constitutional Principles. II. 3 hr. U.S. Constitution as interpreted by the Supreme Court. Treatment is analytical rather than historical. Text supplemented by some leading cases. Primarily for pre-law students. Mr. White

120. State and Local Government. I, II. 3 hr. Survey of the legal basis, structure, and operation of state and local governments, their relations with each other and their place in the federal system. Miss Mann

130. Political Parties and Electoral Processes. I. 3 hr. The nature of political parties. Public regulation of parties and electoral processes. A close examination of suffrage, nominating devices, campaign procedures, and the conduct of elections. Mr. Ross

140. Introduction to Public Administration. I. 3 hr. Introductory study of the development, organization, procedures, processes, and human relations factors of governmental administration in American democracy. Mr. Sturm

150. Contemporary European Governments. I, II. 3 hr. Comparative analysis by countries of constitutions, political structures, and functions, with major emphasis upon the United Kingdom, France, Russia, and West Germany. Mr. Williams

160. International Relations. I. 3 hr. Introduction to contemporary world politics. Just enough background to make present-day international affairs more understandable. Mr. Frasure

170. History of Political Thought: Plato to Machiavelli. I. 3 hr. Examination of major political ideas from the Greeks to sixteenth century with special emphasis upon development of natural law and western conception of justice. Mr. Williams

171. History of Political Thought: Machiavelli to Bentham. II. 3 hr. PR: 170 or consent of the instructor. Analysis of the political ideas which developed from the separation of faith and reason, the culmination of this movement in rational integral liberalism, and the origins of modern conservatism as expounded by Edmund Burke. Mr. Williams

200. Research Materials and Techniques in Political Science. I. 2 hr. A tsudy of basic source materials in political science and of the techniques and methods of governmental research. Required of Majors. Mr. Sturm

210. American Political Institutions. I. 3 hr. PR: Pol Sci. 2 or consent of instructor. Development of the Constitution, Congress, the Presidency, and the Supreme Court as institutions with special attention to current problems and issues. Mr. Sturm

211. Problems of American National Government. II. 3 hr. This course is intended to give recognition to the major contemporary problems of government. Extensive reading of background materials as well as current literature in the field. Mr. Ross

213. American Constitutional Law and Theory. II. 3 hr PR: Pol. Sci. 2 or consent of the instructor. Basic principles of American constitutional law as developed through interpretation with special emphasis on constitutional theories and national development. Primarily for seniors and graduate students. Mr. Sturm

221. West Virginia Government and Administration. I, II. 3 hr. A study of the organization and operation of the state government of West Virginia. Miss Mann and Mr. Sturm

225. Municipal Government. II. 3 hr. Legal basis, structure, operation, and problems of municipal government and municipal relations with other governmental units. Miss Mann

226. Problems of State and Local Government. I. 3 hr. An examination of current problems of state, county, and municipal governments. Students are expected to have completed Political Science 120 or its equivalent. Miss Mann and Mr. Ross

231. History of Political Parties. I. (odd-numbered years). 3 hr. An examination of the growth of political parties in the United States. Analysis of issues in presidential campaigns as they relate to political party development. Mr. Ross

232. Public Opinion and Propaganda. II (alternate years). 3 hr. Analysis of techniques of sampling and measuring public opinion; detection of propaganda; the nature of propaganda and methods of the propagandist. Mr. Ross

233. Current Political Issues. I (even-numbered years). 3 hr. An examination of political party platforms and the major issues of the political campaign. Students will be expected to examine background materials thoroughly. Mr. Ross

234. The Legislative Process. II (alternate years). 3 hr. Structure and organization of legislative bodies. Powers of legislatures. Detailed study of lawmaking procedures. The influence of outside forces. Mr. Ross

241. Administrative Organization and Management. II (alternate years). 3 hr. PR: Pol. Sci. 140 or consent of instructor. Analysis of administrative organization and reorganization and of such management functions as leadership, planning, coordination, public relations, and management improvement. Mr. Sturm

242. Financial Administration. I (alternate years). 3 hr. PR: Pol. Sci. 140 or consent of the instructor. Survey of methods and problems of fiscal management, including budgeting, accounting, tax administration, expenditure control, auditing, purchasing, and financial organization. Staff

243. Public Personnel Administration. II (alternate years). 3 hr. PR: Pol. Sci. 140 or consent of the instructor. Survey of the development of public personnel management, with attention to organization, recruitment, classification, training, morale, unionism, and other aspects of personnel administration. Staff

244. Administrative Law and Regulation. II (alternate years) 3 hr. PR: Pol. Sci. 140 or consent of the instructor. Study of the law of administration, primarily by the case method, covering administrative powers, procedure in administrative adjudication and rule-making, discretion, judicial control, and administrative liability. Mr. Sturm

245. Public Administration and Policy Development. I (alternate years). 3 hr. PR: Pol. Sci. 140 or consent of the instructor. Analysis of decision-making and policy development in the administrative process by the case method. Staff

250. Comparative Government. I. 3 hr. An examination of the leading problems of government organization, constitutional framework, political parties and public opinion, and adminsitrative procedures in several countries with emphasis on on the United States, United Kingdom, France, Germany, and Russia. The subject is examined topically dealing with each problem in several countries. Mr. Williams

251. Modern Dictatorships. II. 3 hr. Politically undemocratic governments. Provides background of dictatorships generally, followed by treatment of several modern dictatorships. Mr. Frasure

252. British Government and Politics. II (alternate years). 3 hr. Intensive study of British government with emphasis upon both internal and external policies, primarily during the twentieth century. Mr. Frasure

253. Contemporary Governments of the Commonwealth. II (alternate years). 3 hr. A survey of imperial organization and Dominion status; a comparative study of the nature and development of political institutions in Canada, Australia, New Zealand, and South Africa. Mr. Williams

254. Governments of Asia. I (alternate years). 3 hr. A survey of contemporary politics and governments of Asia. Staff

255. Governments of Latin America. II (alternate years). 3 hr. A comparative study of the major nations of Latin America. Staff

256. Governments of the Middle East. I (alternate years). 3 hr. An examination of governments and political forces of the Middle East. Staff

261. International Organization. II. 3 hr. Emphasis will be placed upon agencies created since the close of World War II. Some reference to development of international law and League of Nations. Mr. Frasure

262. Specialized Agencies of the United Nations. II. 3 hr. A detailed treatment of the specialized agencies and related institutions. Mr. Frasure

263. Public International Law. I. 3 hr. Law governing relations among nations, including development of rules, means of enforcement, and conflicts between theory and practice. Mr. White

264. Conduct of American Foreign Relations. I. 3 hr. An attempt will be made to determine the factors behind our foreign policy with emphasis upon policy during the twentieth century. Mr. Frasure

272. Recent and Contemporary Political Thought. I. 3 hr. PR: Pol. Sci. 171 or consent of the instructor. An examination of integral liberalism and the forces leading to the decline of liberalism and a critical analysis of the fascist and communist ideologies with their threat to the traditions of western civilization embodied in Christianity and conservatism. Mr. Williams

273. American Political Theory. II (alternate years). 3 hr. PR: Pol. Sci. 171. or consent of the instructor. A survey of major political ideas and their influence upon society and government from the seventeenth century to the present. Mr. Williams

274. Problems in Contemporary Political Thought. II (alternate years). 3 hr. An intensive study of current trends in political thought through examination of the works of contemporary writers. Mr. Williams

310-311. Directed Reading and Research in American National Government. I, II. 2-4 hr. each. Staff

320-321. Directed Reading and Research in State Government. I, II. 2-4 hr. each. PR: Pol. Sci. 120 or consent of the instructor. Miss Mann

325-326. Directed Reading and Research in Local Government. I, II. 2-4 hr. PR: Pol. Sci. 225 or consent of the instructor. Miss Mann

330-331. Directed Reading and Research in Politics. I, II. 2-4 hr. PR: Pol. Sci. 130 or consent of the instructor. Mr. Ross

346-347. Directed Reading and Research in Public Administration. I, II. 2-4 hr. each. PR: Pol. Sci. 140 or consent of the instructor. Mr. Sturm

351-352. Directed Reading and Research in Comparative Government. I, II. 2-4 hr. each. Mr. Frasure and Mr. Williams

361-362. Directed Reading and Research in International Relations. I, II. 2-4 hr. each. Mr. Frasure

375-376. Directed Reading and Research in Political Theory. I, II. 2-4 hr. each. Mr. Williams

380. Thesis. I, II. 2-6 hr. Staff

ROMANCE LANGUAGES AND LITERATURES

Professors Ashburn and Manning; Associate Professors McBride, Mitrani and Singer; Assistant Professors Herrera and Wade; Instructor Frere.

Courses 1 and 2 or two years of high-school credit will be required for entrance to courses 5, 6, 103, and 104. Usually students who have had two years' study of the language in high school should take courses 5 and 6. Students who have done three years of work in high school should consult the departmental adviser before enrolling.

Students whose grades have consistently fallen below "B" in language work in the lower division should not select a Romance Language as a major subject.

No student who has not completed French 109, 110, at least six hours in courses 115, 116, 118, and French 217 and 231 or Spanish 109, 110, 211, 212, 221, and 222 will be recommended as a teacher of the subjects. The following courses are recomended as a minor if a speaking knowledge of the language is desired: French 103, 104, 109, 110, and 231; Spanish 103, 104, 109, and 110.

In order to be recommended by this department for the degree of Bachelor of Arts a student must complete, in addition to special requirements for the A.B. degree, one of the programs outlined below.

Program for French Majors

Required language courses: (a) 24 semester hours from French 103, 104, 109, 110, 115, 116, 118, 217, 221, 222, 231; (b) Spanish or Italian (6 to 12 hours).

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	French 103	3	French 104	3
Lab. Science	4	Lab. Science	4	Span. 1 or Ital. 1	3	Span. 2 or Ital. 2	3
French 5*	3	French 6*	3	Pol. Sc. 1 or Soc. Sc. 1	3-4	Pol. Sc. 2 or Soc. Sc. 2	3-4
History 1 or Humanities 1	3-4	History 2 or Humanities 2	3-4	Geology 118	3	Electives Group 4	3
Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
				Electives	0-3	Electives	0-3
	14-17		14-17		14-18		14-18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
French 109	3	French 110	3	French 221 or 231	3	French 222 or 217	3
French 115	3	French 116 or 118	3	Minor subject and electives	15	Minor subject and electives	15
Minor subject and electives	12	Minor subject and electives	12				
	14-18		14-18		14-18		14-18

*If a student has not had French in high school he will take French 1 and 2 in first year and will take French 5 and 6 concurrently with French 103 and 104 in second year.

Program for Spanish Majors

Required language courses: (a) Spanish 103, 104, 109, 110, 211, 212, 221, and 222: (b) French or Italian (6 to 12 hours).

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Spanish 103	3	Spanish 104	3
Lab. Science	4	Lab. Science	4	Fr. 1 or Ital. 1	3	Fr. 1 or Ital 1.	3
Spanish 5*	3	Spanish 6*	3	Pol. Sc. 1 or Soc. Sc. 1	3-4	Pol. Sc. 2 or Soc. Sc. 2	3-4
History 1 or Humanities 1	3-4	History 2 or Humanities 2	3-4	Geology 118	3	Electives Group 4	3
Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
				Electives		Electives	
	14-17		14-17		14-18		14-18

*If a student has not had Spanish in high school he will take Spanish 1 and 2 in first year and will take Spanish 5 and 6 concurrently with Spanish 103 and 104 in second year.

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Spanish 109	3	Spanish 110	3	Spanish 211	3	Spanish 222	3
Spanish 211	3	Spanish 212	3	Minor subject		Minor subject	
Minor subject		Minor subject		and electives	15	and electives	15
and electives	12	and electives	12				
	14-18		14-18		14-18		14-18

Courses of Instruction

FRENCH

Lower Division

1. Elementary French. I, II. 3 hr. Staff

2. Elementary French. I, II. 3 hr. Continuation of French 1. Staff

5. Intermediate French. I, II. 3 hr. Reading of modern French prose. Staff

6. Intermediate French. II. 3 hr. Continuation of French 5. Staff

Upper Division

103. Elementary Conversation. I. 3 hr. PR: 6 hours of French or equivalent. Open to exceptional sophomores by permission of department head only. Staff

104. La Langue Pratique. II. 3 hr. PR: 6 hours of French or equivalent. Open to exceptional sophomores by permission of department head only. Staff

109. Grammar and Pronunciation. I. 3 hr. PR: 12 hours of French or equivalent. Mr. Mitrani

110. Advanced Conversation. II. 3 hr. PR: French 109 or equivalent. Mr. Mitrani

115. The Classical School. I. 3 hr. PR: 12 hours of French or equivalent. Mr. Manning

116. Literature of the Eighteenth Century. II. 3 hr. PR: 12 hours of French or equivalent. Mr. McBride

*118. Literature of the Nineteenth Century. I. 3 hr. PR: 12 hours of French or equivalent. Mr. McBride

151. French for Elementary Schools. I. 3 hr. PR: French 103 and 104 or French 109 and 110 or equivalent. An intensive study of conversational French for use in the elementary schools, with emphasis on pronunciation and common usage. Observation and practice. Mr. Frere

152. French for Elementary Schools. II. 3 hr. Continuation of French 151. Mr. Frere

217. French Civilization. I. 3 hr. PR: 12 hours of French. Mr. Mitrani

221. The Romantic Movement. I. 3 hr. PR: French 115. Mr. Singer

222. French Realism. II. 3 hr. PR: French 118. Mr. Singer

*229. Literature of the 16th Century. I. 3 hr. PR: 18 hours of French. Staff

*231. Phonetics and Pronunciation. II. 3 hr. PR: 18 hours of French or equivalent. Mr. Manning

*237. Moliere. II. 3 hr. PR: French 115. Staff

244. Explication de textes. II. 3 hr. PR: French 109 and 110. Mr. Manning

290. Old French. II. 3 hr. Mr. Manning

*Not given in 1956-57.

Graduate Division

393. Special Topics. I. 3-5 hr. Themes in French Literature and Culture. Staff

SPANISH

Lower Division

1. Elementary Spanish. I, II. 3 hr. Staff

2. Elementary Spanish. I, II. 3 hr. PR: Continuation of Spanish 1. Staff

5. Intermediate Spanish. I. 3 hr. Reading of modern Spanish prose. Staff

6. Intermediate Spanish. II. 3 hr. Continuation of Spanish 5. Staff

Upper Division

103. Elementary Conversation. I. 3 hr. PR: 6 hours of Spanish or equivalent. Open to exceptional sophomores by permission of department head only. Mr. Herrera

104. La Lengua Practica. II. 3 hr. PR: 6 hours of Spanish or equivalent. Open to exceptional sophomores by permission of department head only. Mr. Herrera

109. Grammar and Conversation. I. 3 hr. PR: 12 hours of Spanish or equivalent. Mr. Ashburn

110. Advanced Conversation. II. 3 hr. PR: Spanish 109, or equivalent. Mr. Ashubrn

151. Spanish for Elementary Schools. I. 3 hr. PR: Spanish 103 and 104 or Spanish 109 and 110 or equivalent. An intensive study of conversational Spanish for use in the elementary schools, with emphasis on pronunciation and common usage. Observation and practice. Mr. Herrera

152. Spanish for Elementary Schools. II. 3 hr. Continuation of Spanish 151. Mr. Herrera

*211. Nineteenth Century Literature to 1870. I. 3 hr. PR: Spanish 5 and 6 or equivalent. Mr. Singer

*212. Spanish Literature Since 1870. II. 3 hr. PR: Spanish 5 and 6 or equivalent. Mr. Singer

216. Civilization and Culture. II. 3 hr. PR: 12 hours of Spanish or equivalent. Mr. Ashburn

217. Spanish American Literature and Culture. I. 3 hr. PR: Spanish 5 and 6 or equivalent. Mr. Mitrani

218. Spanish American Literature and Culture. II. 3 hr. Continuation of Course 217. PR: Spanish 5 and 6 or equivalent. Mr. Mitrani

221. Literature of the Golden Age. I. 3 hr. PR: 18 hours of Spanish, or equivalent. Mr. Mitrani

222. The Golden Age after Lope de Vega. II. 3 hr. PR: Spanish 221. Mr. Mitrani

*223. Estudios de Estilo. I. 3 hr. PR: 18 hours of Spanish, or equivalent. Mr. Ashburn

*224. Explicacion de Textos. II. 3 hr. PR: 18 hours of Spanish, or equivalent. Mr. Ashburn

*291. Cervantes. I. 3 hr. Mr. Singer

295. Sixteenth Century Literature. I. 3 hr. Mr. Ashburn

296. Old Spanish. II. 3 hr. Mr. Ashburn

Graduate Division

392. Special Topics. II. 1-3 hr. Themes in Spanish literature and culture. Staff

ITALIAN

Lower Division

1. Elementary Italian. I. 3 hr. Staff
2. Elementary Italian. II. 3 hr. Continuation of Italian 1. Staff
5. Intermediate Italian. I. 3 hr. Reading of modern Italian prose. Staff
6. Intermediate Italian. II. 3 hr. Continuation of Italian 5. Staff

Upper Division

109. Composition and Conversation. I. 3 hr. Staff
110. Advanced Conversation. II. 3 hr. Staff

RUSSIAN

Instructor Pushkarsh

The courses in Russian are designed to enable the student to follow the scientific developments in Russia. The elementary courses will present the fundamentals of grammar; pronunciation, with some practice in conversation; and translation of simple scientific Russian in the fields of chemistry, physics and medicine.

Lower Division

1. Elementary Russian. I. 3 hr. Mr. Pushkarsh
2. Elementary Russian. II. 3 hr. Mr. Pushkarsh
5. Intermediate Russian. I. 3 hr. Reading of modern Russian prose. Mr. Pushkarsh
6. Intermediate Russian. II. 3 hr. Continuation of Russian 5. Mr. Pushkarsh

SOCIAL WORK*

Professor Fulton; Assistant Professors Loomis, Walcott, and Whitney; Instructor Ellison; Lecturers Falk, Johnson, Lawless, Maxwell, Rogers, Serotkin, and Sleeth.

GENERAL STATEMENT

The Department of Social Work provides graduate professional training for social work, and an undergraduate pre-professional curriculum.

For persons interested in a service career, social work offers interesting and challenging experience and a rewarding opportunity for the use of intelligence and scientific knowledge, based on a sincere desire to be helpful. The field of social work offers a wide range of opportunities for employment and advancement. The present demand for social workers with graduate training far exceeds the supply.

THE PROFESSIONAL CURRICULUM

Professional social work education is entirely on a graduate basis. The full training course leading to the Master of Social Work degree as offered by the Department of Social Work is accredited by the Council on Social Work Education. This training course prepares the student for competent practice in practically all agencies in which social casework service is offered, including child welfare, probation and parole, family service and counseling, hospitals and clinic social services, psychiatric social services, school social services, public assistance, vocational rehabilitation, church social services, international service agencies, home service work in American Red Cross chapters, Veterans Administration Regional Offices, and numerous

*For a full statement on professional education for social work see the Department of Social Work **Announcements.**

others. Upon gaining experience the student can move into positions involving supervision, administration, community organization, and research.

The goal of graduate training is to enable students to develop the skills with which people are effectively helped to solve their problems—individually, in groups, or as communities planning toward improved facilities for human welfare. Toward the development of these skills, the student must obtain understanding of personality development, of motivation for normal and deviate behavior; understanding of himself as affecting his capacity to help others; and knowledge of health and welfare resources in the community, how they are developed and used.

Full professional training is necessary to assure a high quality of help to persons requiring counseling and other assistance with problems of living. It is equally essential for the student who wishes to find growth, satisfaction, promotion and leadership in the profession.

Requirements for the Master of Social Work Degree

(Please consult the Department of Social Work *Announcements* or the Graduate School *Announcements).*

Requirements for the Professional Certificate of Social Work

The Professional Certificate of Social Work is awarded to students who may wish to have certification that they have completed approximately half of the training required for the Master of Social Work Degree.

(For further information consult the Department of Social Work *Announcements* or the Graduate School *Announcements).*

Field Work

Field work is required of all candidates for the graduate degrees. It is an integral part of the curriculum, providing an opportunity for each student to develop skill in practice. In the actual doing, under careful supervision, the student can affirm, fix and extend what he has gained in the classroom and library. Field work is designed to be an education experience; it is provided jointly by the University and carefully selected cooperating agencies. The faculty of the Department maintains close contact with each student and agency. Typically the student devotes to field work about half of the total time in training, in two different placements. These placements are made in public assistance, family counseling agencies, child-caring agencies, home service departments of American Red Cross chapters, the medical departments of Veterans Administration regional offices and hospitals, mental health clinics, rehabilitation centers and other agencies. Assignments are made to the same agency for a period not less than one semester in length, unless in exceptional circumstances and on the basis of indlividual needs other plans are more desirable. In the case of students entering in February, field work assignments may be made from mid-July through the following January.

THE UNDERGRADUTAE PRE-PROFESSIONAL CURRICULUM

The preprofessional curriculum emphasizes liberal arts education. It offers, to juniors and seniors in the college, a limited number of social work courses to be taken concurrently with a concentration in the social sciences, based on a lower division foundation of general education. It has been developed for three interest groups: (1) students who are preparing for graduate training in social work; (2) students who wish to qualify for positions for which graduate education is not now required; and (3) students who wish to acquire an understanding of the field of social work as part of their general education, or with a view to service on agency boards, committees and community projects. Social work courses are available also to students from other departments who wish to include knowledge of this field in their preparation for teaching, school administration, educational counseling, psychology, recreation, nursing, etc.

The general plan of the preprofessional social work curriculum is: (a) two lower division years of general education, including beginning courses in the several social sciences; (b) two upper division years during which the student concentrates in the social sciences and majors in the Department of Social Work. It is recommended that the student complete, during the four college years, a total of 50 or 60 hours in the social sciences, including political science, economics, sociology, history, social work, and psychology.

Upon the completion of this curriculum and all other requirements of the College of Arts and Sciences, the student will be eligible for a Bachelor of Science degree with a major in social work.

PRE-PROFESSIONAL SOCIAL WORK CURRICULUM

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Lab. Science*	4	Lab. Science*	4	Foreign Lang.**	3	Foreign Lang.**	3
Foreign Lang.	3	Foreign Lang.	3	History 52	3	History 53	3
English 1	3	English 2	3	Economics 1	3	Economics 2	3
Group I	3-4	Group I	3-4	Psychology 1†	3	Pol. Sci.	3
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Group III	3	Group III	3
Phys. Educ.	1	Phys. Educ.	1	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
				Phys. Educ.	1	Phys. Educ.	1
	14-16		14-16		16-17		16-17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Social Work 230	3	Social Work 285	3	Social Work 260	3	Social Work 221	3
Sociology 102	3	Sociology 243	3	Sociology 202	3	Home Ec. 104	3
Psychology	3	Pol. Science 120	3	Electives	8-12	Electives	8-12
Sociology 274	3	Group IV	3				
Electives	4-6	Electives	4-6				
	16-18		16-18		14-18		14-18

*Preferably Biology.
†Omitted if Psychology 3 and 4 are offered to satisfy the Laboratory Science requirement.
**May be omitted if two units of high school credit in foreign language are offered by the student.

Admission Requirements

Upper Division

Students are admitted to upper division in the Department of Social Work who have completed at least 58 semester hours at West Virginia University or in another accredited educational institution with a total of not less than 12 semester hours in economics, political science, psychology, sociology and history; and have met all other requirements for transfer to upper division.

Graduate Division

Students are admitted for graduate study in the Department of Social Work who meet all of the following requirements:

1. Graduation with a bachelors' degree from West Virginia University or from another accredited institution.
2. Admission to the Graduate School.
3. Completion of the pre-professional curriculum at West Virginia University; or satisfactory completion of courses in social sciences, totaling at least 24 hours, including not less than 12 semester hours in one of the following fields; economics, political science, sociology, philosophy, psychology, or history. Students who have not fulfilled these social science requirements may be admitted on condition that

they complete them before they become eligible for a graduate degree. The Head of the Department determines the selection of courses to meet the undergraduate deficiencies.

4. Approval by the Committee on Admissions of the Department, based on satisfactory evidence of personal characteristics which give promise of usefulness in the profession of social work.

Application Procedures

Upper Division

Students in West Virginia University should make application for admission to the Department on forms obtained from the Department. Students from other institutions should (1) request an application blank from the Registrar for admission to the University; and (2) request the registrar of the institution previously attended to send a complete official transcript directly to the Registrar of the University.

Graduate Division

Written application for admission to the Department of Social Work is made on forms which may be obtained from the Department. All applicants must also apply for admission to the Graduate School on a form supplied by the Registrar. Students from institutions other than West Virginia University must have a complete transcript of their credits forwarded to the Registrar.

Prospective students are requested to make application as far in advance of the date they wish to enroll as is possible. The Department regularly admits first-year students to enter in September and may admit a new class to begin at the opening of the second semester. Second-year students are admitted to begin work in July (at the beginning of the second summer term) or in September.

Courses of Instruction

For fuller description see Department of Social Work *Announcements.*

General Prerequisites: Twelve semester hours in social sciences for Social Work courses in the 200 series; 24 semester hours in social sciences for Social Work courses in the 300 series. Such prerequisite courses may be taken in the following fields: economics, history, political science, general social science, sociology, and psychology. Social Work courses in the 200 series may be offered toward admission requirements for courses in the 300 series.

Upper Division[21]

212. Community Social Welfare Resources. I, S. 2 hr. PR: A total of 12 Sem. hrs. in Social Sciences, including Psychology. A study of the nature and functions of selected community welfare and health agencies, including field visits and discussion periods. Designed primarily for teachers, school administrators, nurses and other interested persons. Not to be taken by students who plan to offer SW 260 and 221 toward a degree. Mr. Loomis

221. The Field of Social Work. II, S. 3 hr. PR: 12 hr. in social sciences. A survey of modern social services offered in family counseling agencies, hospitals, psychiatric clinics, schools, social settlements, community chests and councils. Lecture-discussion, supplemented by audio-visual aids and field visits. Mrs. Ellison or Mr. Whitney

230. Pioneers in Social Welfare. I. 3 hr. PR: 12 hr. in social sciences. Development of voluntary social work programs, using biography to understand the social movements led by such pioneers as Benjamin Rush, Dorothea L. Dix, Jane Addams, Mary Richmond, etc. Mr. Loomis

[21]The preprofessional curriculum includes a major selected from among the following courses: Social Work 221, 230, 260, 285; Agr, Econ. 271, Agricultural Policy; Home Ec. 104, Nutrition and Home Management; Soc. 243, Intro. to Anthropology; and Soc. 274, Housing.

260. Child Welfare. I, S. 3 hr. PR: 12 hr. in social sciences. The role of home, school, church, and government in meeting the mental health needs of children. Social services provided by agencies to children who require protection, assistance, foster care, adoption, or service in own homes. Delinquency and juvenile courts. Mrs. Ellison or Mr. Whitney

285. Introduction to Public Welfare. II, S. 3 hr. PR: 12 hr. in social sciences. An introduction to present-day public welfare programs. Development from 17th century poor laws to modern social security. Mr. Loomis

301. Casework. I. 3 hr. PR: Consent. An introduction to the philosophy, generic principles and basic concepts of the social casework method. **Mrs. Ellison or Mr. Whitney**

302. Casework. II, S. 3 hr. PR: S.W. 301 and S.W. 311-312, or consent. Continuation of S.W. 301 following a semester of field work. Miss Walcott or Mr. Whitney

303. Introduction to Social Group Work. II. 2 hr. PR: Consent. Principles and methods by which group workers help individuals to use group relationships for individual growth. Group work in community organization and administration. Mr. Serotkin

304. Community Relationships. II. 3 hr. PR: Consent. Community organization method. Responsibilities of worker, supervisor, and administrator; of councils, chests, direct-service agencies, etc. Mr. Fulton

306. The Social Services I. I. 3 hr. PR: Consent. Analysis of current social services, services, programs, and institutions, under public and private auspices. The concepts of need; description of specific needs. Historical development of services, and progress toward meeting human needs. Mr. Loomis

307. The Social Services II. II. 3 hr. PR: S.W. 306. Current issues and trends in modern social services. Evolution of standards and professional practice; changing concepts of the nature of man. International social services. Mr. Loomis

311, 312. Field Work. I, II, S. 5 hr. each. PR: S.W. 301. Field practice in selected agencies under general direction of the faculty and under direct supervision of agency supervisor or faculty members. Miss Walcott and Staff

314. Field Work. I, II, S. 1-4 hr. PR: S.W.301. Field practice in selected agencies under general direction of the faculty. Designed to supplement S.W. 311 and 312 as needed. Variable credit: at least 55 clock hours per semester hour of credit. Miss Walcott and Staff

315. Psychosocial Development of the Individual. I. 2 hr. PR: Consent. Normal development of the individual from infancy to old age, with attention to behavior problems of children. Emphasis is placed on the psychodynamics of growth and adjustment and the mechanisms used by individuals to achieve balance and maturity. Miss Walcott and Psychiatrist

320. Psychopathology. II. 2 hr. PR: S.W. 301, 315. The forms and symptoms of psychopathology, with emphasis on the dynamics of behavior and relevance to social casework. Mr. Whitney and Psychiatrist

321. Social Casework III. S. 2 hr. PR: S.W. 302. An additional course in social casework generic and specialized. Offered to students who wish or need to deepen their understanding of social casework processes beyond that obtained in the regular sequence. Mr. Fulton, Miss Walcott

322. Social Casework IV. II. 2 hr. PR: S.W. 331-332. An advanced course in social casework generic and specialized. Analysis of casework processes, with special emphasis on the helping relationship with clients whose problems are complicated by difficulties within themselves or their relationships. Case materials drawn from medical, psychiatric, authoritative, child welfare, family service, and other settings. Miss Walcott

331, 332. Advanced Field Work. I. 5 hr. PR: S.W. 302. Continuation of S.W. 311-312, usually in a different setting, with opportunities for deepening understanding and skill. Miss Walcott and Staff

334. Advanced Field Work. I, II, S. 2-4 hr. PR: S.W. 302. Continuation of S.W. 331 and 332 with opportunities for increasing and deepening the student's understanding and skills. Designed to supplement S.W. 331 and 332 as needed. Variable credit: at least 55 clock hours per semester hour of credit. Miss Walcott and Staff

351. Social Statistics. I. 2 hr. Scientific approach to fact-finding and its application to social welfare problems. The social worker as a consumer and producer of research. The basic statistical methods. Mr. Loomis

361. Social Agency Administration. I. 2 hr. PR: Consent. Administrative principles applicable to the organization and operation of social agencies. Special attention to the practitioner's responsibilities. Mr. Fulton

364. Research Methods. II. 2 hr. PR: Consent. Scientific method as applied to problems in social work. Planning, organizing, conducting and reporting on a research study. Measuring results of casework. Mr. Fulton

371. Medical Information. I. 3 hr. PR: Consent. Ill health and disablement as a social problem. The causes, incidence, symptoms and treatment of common diseases. Social and psychosocial factors that promote or retard health. The social worker's responsibility for case-finding, treatment and prevention, and the use of community resources. Group work services in the care of the ill and handicapped. Medical School Staff, Lecturers, and Mrs. Ellison

381. Problem Report. I, II, S. 1-3 hr. per semester or term. Total required: 3 hr. PR: Second year standing. Substantial exploration and discussion of a professionally significant problem. Required of all candidates for M.S.W. Degree. Staff

390. Seminar. II, S. 2 hr. PR: 30 semestr hours in graduate social work training. Selected problems in social work as a profession. Comparison of basic social work methods. Generic aspects of settings. Mr. Fulton

391. Seminar in Applied Psychodynamics. II. 1 hr. PR: S.W. 302 and 315. A seminar in which case materials are discussed, with special emphasis on identifying cause and effect relationships, and analyzing effectiveness of treatment. Mr. Whitney

392. Seminar in Community Organization. II, S. 1 or 2 hr. PR: S.W. 304 or equivalent. Current problems in planning, organizing and financing social services, with special reference to chests, councils, and state-wide organizations of health and welfare services.

SOCIOLOGY

Professor Gibbard; Associate Professor Saposnekow; Assistant Professor Kerr; Instructor Silberstein.

The study of sociology should help the student to increase his understanding of the society in which he lives. The work of an undergraduate major in sociology provides basic preparation for teaching social sciences in high schools and for careers in social work and other fields involving interpersonal relations. The study of sociology should be an aid to citizenship and intelligent participation in modern life.

A major in sociology consists of 18 or more hours of upper-division courses including as a rule Sociology 202, *Introduction to Social Research,* Sociology 243, *Introduction to Anthropology,* and Sociology 246, *Types of Sociological Theory.* A course in statistics is strongly recommended. Students may count toward a sociology major Rural Sociology 105, *Rural Life,* and Psychology 130, *Statistical Methods in Psychology.*

A student intending to major in Sociology may follow either the regular course curriculum (Option A) or the Integrated Studies (Option B) lower division curriculum.

If the Integrated Studies curriculum is followed, the student should take Sociology 1 and 2 in his second year, in place of six hours of electives.

The following program is suggested for students who pursue the Option A curriculum.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Sociology 1	3	Sociology 104	3
Foreign Lang.	3	Foreign Lang.	3	Foreign Lang.	3	Foreign Lang.	3
Laboratory Sci.	4	Laboratory Sci.	4	Speech 1 (either Sem.)	0-3	Speech 11 (either Sem.)	0-3
Electives, Group 1	3-4	Electives, Group 1	3-4	Psych. 1 (either Sem.)* or Psych. 3, 4	0-3-4	Psych. 1 (either Sem.) * or Psych. 3, 4	0-3-4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Econ. 1 or Pol. Sci. 1	3	Econ. 2 or Pol. Sci. 2	3
Phys. Educ.	1	Phys. Educ.	1	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
				Phys. Educ.	1	Phys. Educ.	1
				Electives	0-4	Electives	0-4
	14-17		14-17		15-18		15-18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Electives, Group 3 (if not fulfilled)	3	Electives, Group 3 (if not fulfilled)	3	Sociology 202	3	Sociology 246	3
Sociology electives	6	Sociology 243	3	Sociology elective	3	Sociology elective	3
Minor subject elective	3	Sociology electives	6	Minor subject elective	3	Minor subject elective	3
Electives	3-9	Minor subject elective	3	Electives	6-9	Electives	6-9
		Electives	3-9				
	15-18		15-18		15-18		15-18

*If Psychology is not elected to fulfill the laboratory science requirement. Otherwise, courses which satisfy Group 3 requirement are recommended in place of psychology. If not met in the sophomore year, the Group 3 requirement may be satisfied in the junior year.

Courses of Instruction

Lower Division

1. Introduction to Sociology. I, II. 3 hr. Basic concepts; fundamental institutions and functions of society. Staff

Upper Division

Prerequisite for Sociology courses in the "200" series: Sociology 1 or 102, or Social Science 1, 2 (or equivalents).

102. Principles of Sociology. I, II. 3 hr. Analysis of nature and operation of our society; formulation of sociological principles. (A first course mainly for upper-division students. Not for credit by students with credit for Sociol. 1). Mr. Saposnekow

104. Social Problems. I, II. 3 hr. Sociological analysis of current social problems. Staff

160. Family Living. I, II. 3 hr. A course without prerequisites, for students in all divisions of the University, to help them attain knowledge, values, and skills

with respect to dating, courtship, mate selection, engagement, marriage, parenthood, and family life. Mr. Kerr

202. Introduction to Social Research. I. 3 hr. Trends in social research; examination of methods and techniques. Staff

205. Urban Sociology. II. 3 hr. Growth of urbanism in the U.S.; population, ecological status, and institutional aspects of organization of cities; urban problems. Mr. Gibbard

206. Rural Sociology. I. 3 hr. Rural conditions, structures, processes, problems, trends, agencies. Staff

208. The Community. S. 3 hr. An analytical course intended chiefly to provide background data for students interested in programs of community action. Topics to be included are: the basic characteristics of communities; community institutions and resources; social cleavages within the community; and community survey and community planning. Mr. Gibbard

210. Marriage and the Family. I, II. 3 hr. Sociological analysis of the contemporary family and its problems. Mr. Kerr

211. Sociology of Childhood. II. 3 hr. Adjustment of child to American culture. Mr. Kerr

220. Social Change. S. 3 hr. An analysis of the major changes now going on in our society, of the forces underlying them, and of the tensions to which they give rise. Mr. Saposnekow

229. Population and Migrations. I. 3 hr. Population theories; growth, composition, and distribution of American population; immigration and culture pluralism; internal migrations and their consequences. Mr. Gibbard

231. Race Relations. I. 3 hr. Race relations in the U.S. with emphasis on the American Negro. Mr. Gibbard

233. Criminology. I, II. 3 hr. Explanation of crime; critical study of criminal justice, penal methods, and reform movements. Mr. Saposnekow

234. Juvenile Delinquency. S. 3 hr. A scientific study of the nature, extent, and causes of delinquency in the United States. Methods of treatment, correction, and prevention, with emphasis on the work of the juvenile courts Mr. Saposnekow

235. Collective Behavior. I. 3 hr. Analysis of new group formation and behavior following social dislocation, social unrest, crowd behavior, and other forms of social contagion; the public and public opinion; social movements. Mr. Silberstein

243. Introduction to Anthropology. II. 3 hr. Biological history of man, analytical study of social organization, culture, and intellectual life of primitive man. Mr. Saposnekow

244. Culture and Personality. II. 3 hr. Significant interrelations between the individual and his culture. Mr. Silberstein

246. Types of Sociological Theory. II. 3 hr. Examination of leading schools of sociological thought in our day. Mr. Saposnekow

274. Housing. I. 3 hr. Urban and rural housing conditions in U.S., proposed solutions; role of public and private action. Mr. Saposnekow

Graduate Division

Prerequisites for all courses in the "300" series; consent of department head.

371, 372. Thesis. I, II. 1-6 hr. Staff

391. General Seminar. I, II. 3 hr. Staff

392. General Seminar. I, II. 3 hr. Staff

393. Seminar in Sociological Research. I, II. 3 hr. Staff

394. Seminar in Sociological Research. I, II. 3 hr. Staff

395. Seminar in Sociological Theory. I, II. 3 hr. Staff

396. Seminar in Sociological Theory. I, II. 3 hr. Staff

SPEECH

Professors Henning and Jerome; Associate Professors Boyd and Welden; Assistant Professors Burrows* and Greene; Instructors Davis Ford, Hunker, Mullin, Neel, Phillips, Rives, and Smith.

The curriculum of the Department of Speech is so organized that a student may receive basic training in the cultural and practical aspects of any one or more of six fields of speech: (1) interpretation; (2) public address; (3) radio; (4) speech correction and audiology (5) teaching; and (6) theatre. In all courses of training in speech skills, professional standards of achievement are emphasized.

Forensic Activities. Intramural and intercollegiate forensics, including debate, oratory, and extemporaneous speaking, receive due attention. Speech tournaments, trips, and tours as well as campus contests are included in the program. Participation in the activities may lead to membership in Delta Sigma Rho, honorary forensic fraternity.

Theatrical Performances. The University Players, in conjunction with classes in dramatics, present a regular program of plays which affords ample opportunity for student participation. In addition, other public and semi-public performances are scheduled to provide experience for less advanced students. Membership in Alpha Psi Omega may be earned by superior work in connection with various productions.

Radio Programs. The University Radio Theater produces, through the facilities of its professionally equipped and outfitted studios, five-minute to half-hour shows for broadcasting. Many programs are recorded on tape and distributed to stations throughout the state.

Off-Campus Speech Services. The Department sponsors and furnishes student programs in the form of short plays, speeches, interpretative readings, and debates for off-campus performances before women's and civic clubs, community organizations, and church groups throughout the state.

Speech and Hearing Problems. Under the direction of a speech and hearing specialist, the Department maintains a clinic for diagnosis and treatment of speech and hearing deficiencies. All University students with speech and hearing handicaps may avail themselves of the services of the clinic without additional cost.

Major Requirements. The minimum number of hours in speech courses for a major is 36, including the following required courses 3, 6, 11, 29, 50, 51, 121, 140, 250, and 251. The 12 hours of electives taken in addition to these required courses must all be upper division. A total of 40 semester hours in Speech may be counted toward graduation. Included in the major requirements is passage of the platform test.

Platform Test. During the second semester of the sophomore year each speech major shall demonstrate proficiency in a 15-minute platform test at a time and place designated by the head of the Department. Passage of this test shall be prerequisite to continued registration as a speech major. Two tests shall be the maximum allowed any student. A student may petition to have any public platform appearance in which he may have occasion to appear judged as his platform test. Satisfactory passage will fulfill this requirement.

*On leave of absence 1955-56.

RECOMMENDED DISTRIBUTION OF COURSES

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Language	3	Language	3
Science[22]	4	Science[22]	4	Phys. Educ. (W)	1	Phys. Educ. (W)	1
Language	3	Language	3	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Speech 3	3	Mil. or Air Sci. 2	2	Speech 29	3	Speech 11	3
Mil. or Air Sci. 1	2	Phys. Educ.	1	Hist. 52*	3	Hist. 53*	3
Phys. Educ.	1	Speech 6	3	Pol. Sci. 1[24]	3	Eng. 4 or 6[25]	3
Electives[23]	2	Electives[23]	2	Eng. 3 or 5	3	Pol. Sci. 2[24]	3
	16-18		16-18		16-17		16-17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Speech 50	2	Speech 121	3	Speech Elec.	6	Speech Elec.	6
Speech 51	1	Speech 250	2	Electives	10	Electives	10
Speech 140	3	Speech 251	1				
Philosophy 104	3	Electives	10				
Electives[26]	7						
	16		16		16		16

Teacher Training. For students working toward teacher certification in Speech, attention is called to the foot-noted items in the above distribution of courses. Also, in the selection of their speech electives, such students should be certain to elect Speech 120, Speech 161, and Speech 162, all of which are required for certification in the field of speech. A minimum of 36 hours in the field is needed for certification.

Courses of Instruction

Lower Division

1. Speech Clinic Laboratory. I, II. 1 or 2 hr. PR: Speech examination in speech clinic and consent. Laboratory for students with speech and hearing defects. Mr. Jerome and Staff
2. Speech Clinic Laboratory. I. II. 1 or 2 hr. PR: Speech 1 and consent. Continuation of Speech 1. Mr. Jerome and Staff
3. Voice and Diction. I, II. 3 hr. Drills for developing proper breath support and for producing a strong, flexible, resonant voice. Emphasis upon clarity of voice for communication. Phonetics. Voices recorded and analyzed, with corrective exercises prescribed. Open to all students. Staff
6. Acting. I, II. 3 hr. Drills for developing muscular control; for overcoming inhibitions; for rendering the body expressive of thought and emotion. Coordination of mind and body. Open to all students. Mr. Boyd and Mr. Burrows
11. Public Speaking. I, II. 3 hr. PR: English 1 and 2. Study and application of principles of practical public speaking. Training in composition and effective delivery of speeches and in skills in thinking and speaking before an audience. Mr. Welden

*Students working toward teacher certification should substitute History 1 and 2.

[22]Students working toward teacher certification should take either Biology 1 and 2 or Physical Science 1 and 2.

[23]Students working toward teacher certification should schedule Art 30 and Music 10 here.

[24]Students working toward teacher certification should substitute Social Science 1 and 2.

[25]Selection of course dependent upon whether English 3 or 5 was selected. English 4 is to follow English 3 and English 6 is to follow English 5.

[26]Students working toward teacher certification should schedule English 18 or 21, Education 105, and Health Education 101 or 180 here.

29. Oral Interpretation. I, II. 3 hr. Development of mental and emotional responsiveness to written material. Techniques of communicating such material to others through oral reading. Open to all students. Staff

50. Theatrical Methods and Practices. I, II. 2 hr. Basic techniques and terminologies of acting, scene constructon, lighting, properties, costuming, directing and theater history. (Must be accompanied by Speech 51 to receive credit.) Mr. Burrows

51. Theatrical Methods and Practices Laboratory. I, II. 1 hr. Laboratory to accompany Speech 50. Participation in actual production of University Theater and Children's Theater plays. Mr. Ford

60. Junior Varsity Debate. I. 1-2 hr. Intercollegiate debate training and participation preparatory to varsity team debating. Open to freshmen and sophomores. Staff

61. Junior Varsity Debate. II. 1-2 hr. Continuation of Speech 60. Staff

75. Parlimentary Procedure. I, II. 1 hr. Study of and practice in establishing rules of order and methods of conducting meetings, assemblies, societies, etc. Mr. Welden

INTERPRETATIONS

Upper Division

104. Advanced Oral Interpretation. I. 3 hr. PR: Speech 29. Content and form of various types of literature and advanced techniques for their oral presentation. Staff

105. Basic Problems in Interpretation. II. 3 hr. PR: Speech 29. Designed to deal with individual problems of students in interpretation. Staff

113. Advanced Voice and Diction. I. 2 hr. PR: Speech 3. Advanced training of the voice for speech. Adapted to individual needs. Staff

200. Art of Storytelling. Summer session only. 2 hr. PR: Consent. Principles involved in effective presentation of stories, with practical experience in classroom and before audiences. Stories of all types for adults and children studied. Staff

203. Professional Reading. I, II. 3 hr. PR: Speech 104 and consent. Intensive training in interpretation. Designed to meet needs of individual. Full length public recital prepared and presented. Limited enrollment. Staff

205. Advanced Problems in Interpretation. II. 3 hr. PR: Speech 29 and consent. Designed to deal with individual problems of advanced students in interpretation. Staff

PUBLIC SPEAKING

Upper Division

120. Group Discussion. I, II. 3 hr. PR: Speech 11. Theory and practice of various forms of group discussion. Principles, methods, and types of group discussions; application of contemporary problems. Mr. Welden

121. Argumentation and Debate. I, II. 3 hr. PR: Speech 11. Principles of argumentation, evidence, and reasoning; application to debating. Mr. Welden

123. Advanced Argumentation and Debate. I. 3 hr. PR: Speech 121. Primarily for varsity debaters and Law students. Mr. Welden

124. Advanced Argumentation and Debate. II. 3 hr. PR: Speech 123. Mr. Welden

125. Advanced Public Speaking. I. 3 hr. PR: Speech 11. Techniques in composition and delivery of public speeches. Attention to parliamentary procedure. Staff

126. Speech for Business and Industry. 3 hr. (Evening Education only). PR: None Designed particularly to meet the needs of business executives, supervisors, foremen, public relations personnel, salesmen, etc. Study of and performance in public speaking, conference methods, making reports, committee work, management leadership, group controls, and personnel relationships.
Mr. Welden and Mr. Henning

220. Speech Composition. II. 2 hr. PR: Speech 11 and consent. Materials of speech, organization, and style; application to delivery. Mr. Henning

221. Persuasion. I. 3 hr. PR: Speech 11 and consent. Study and practice in identification of factors motivating human behavior and belief, how to secure and hold attention, the uses of suggestion, the dramatization of ideas. Application to advertising and writing as well as speaking. Adapted to needs of pre-law and commerce students. Mr. Henning

222. Forms of Public Address. II. 2 hr. PR: Consent. Composition and delivery of the oration, political speech, speech of introduction, dedicatory address, and eulogistic speech. Mr. Welden

223. Advanced Group Discussion. II. 2 hr. PR: Consent. Application of the principles and practices of group discussion to classroom teaching the conference tables, committee work, policy-determining groups, and the public forum. Opportunities for participation by members of the class using current national and international problems. Mr. Welden

225. Interscholastic Forensics. Summer Session only. 2 hr. PR: Consent. Inter scholastic public-speaking activities with emphasis upon types commonly termed original speech, such as debate, oratory, and extemporaneous speaking. Opportunity for performance in each type will be provided.
Mr. Henning and Mr. Welden

Graduate Division

330. Classical Rhetoric. I. 3 hr. PR: Consent. Critical study of early writings in the field of speech, their philosophies of composition, organization, style, and delivery. Mr. Henning

331. Medieval and Modern Rhetoric. II. 3 hr. PR: Consent. Continuation of Speech 330. Mr. Henning

335. History of American Public Address. II. 3 hr. PR: Consent. Critical study of leading American speakers, their biographies, speeches, and issues with which they dealt. Mr. Welden

339. Seminar: Problems in Speech. I, II. 3 hr. Mr. Henning

RADIO AND TELEVISION

Upper Division

140. Introduction to Radio. I. 3 hr. Radio as an industry. Organization of stations—local, regional and network. FCC regulations. History of broadcasting, its responsibilities, and job opportunities. Mr. Greene

141. Radio Announcing. II. 3 hr. Procedures and routines of announcing. Staff assignments, regulations, logged broadcasting operations, reports, and emergency procedures. Preparation of news and commercial copy. Mr. Greene

142. Radio Acting. I, II. 3 hr. Microphone techniques, analysis of character, mood scene, and situation. Problems of pacing, timing, climax, and projection of character. Participation in Radio Players broadcasts. Staff

143. Fundamentals of Radio Production. I. 2 hr. PR: Speech 140 or consent. The operation and care of studio and control-room equipment. Nontechnical study of control and transmission of all types of radio programs. Blending of sound, music, and speech in dramatic production. Mr. Greene

144. Radio and T.V. Continuity Writing. I. 2 hr. Format of all types of radio and television writing except dramatic scripts. Continuity for music programs, talks, interviews, round-table discussions, forums, and variety shows. Staff

145. Introduction to Television. I. 3 hr. Television industry, its history and development. Problems in production and fundamentals of picture transmission. Comparison with radio broadcasting. Staff

240. Dramatic Radio & T.V. Writing. II. 2 hr. PR: Speech 141 or consent. Dramatic scripts, documentaries, poetry programs, serial dramas, and children's shows. Scripts are written to be aimed at definite markets or for production by University Radio and T.V. Players. Staff

241. Advanced Radio Acting. II. 2 hr. PR: Speech 142 or consent. Specialized study in character and dramatic types, regional and foreign dialects, development of original characterizations for professional audition material. Participation in University Radio Players. Staff

242. Production Directing. II. 2 hr. PR: Speech 143 or consent. Lecture and laboratory in anaylsis, casting, rehearsal, and production of talk shows, interviews, round-table forums, popular and classical music shows, variety shows. Staff

243. Television Workshop. I, II. 2 hr. PR: Speech 145 or consent. Lecture and laboratory study in production of television programming. Mr. Boyd and Mr. Burrows

244. Radio & T.V. Programming. II. 2 hr. PR: Speech 140 and 145 or consent. Methods of analysis of audience interests and subsequent planning of programs to service advertisers' accounts. Planning of public service, sustaining, and educational programs for radio and television. Staff

Graduate Division

348. Seminar: Problems in Radio. I, II. 3 hr. PR: Consent. Staff

349. Seminar: Problems in Television. I, II. 3 hr. PR: Consent. Mr. Burrows

NOTE: For additional courses of training for television, refer to Speech 6, Speech 162, Speech 260, Speech 261, Speech 263, Speech 264, and Speech 267.

SPEECH RE-EDUCATION

Upper Division

150. Phonetics. I. 2 hr. Production, perception, transcription, and variations of the speech sounds of the English language. Miss Phillips

250. Speech Correction. I. 2 hr. PR: Consent. General survey of the field of speech correction, adapted for the classroom teacher with emphasis on the recognition and therapy of articulation disorders. For maximum benefit, Speech 251 should be taken concurrently. Mr. Jerome

251. Speech Correction Laboratory. I. 1 hr. PR: Speech 250. An observational and performance laboratory period designed to accompany Speech 250. Students taking course will train in analyzing speech characteristics in order to identify and classify types of speech defects, such as articulation disorders, cleft palate speech, delayed speech, and stuttering. Diagnostic testing procedures for articulation disorders will be stressed and the basic therapeutic procedures observed. Mr. Jerome

252. Speech Pathology. I. 2 hr. PR: Speech 250 and consent. Theories and therapies of stuttering. Miss Phillips

253. Audiometry. I. 2 hr. PR: Consent. Study of the anatomy of the ear, psychophysics of sound, testing of hearing, and function of hearing aids. Mr. Jerome

254. Applied Phonetics. 2 hr. II. PR: Speech 3, Speech 250, or consent. A study of the standard speech sounds in our language. Use of symbols for recording speech sounds; application of the use of such symbols in representing various usages of speech; special emphasis on analyzing and recording defective speech. Dynamic concepts studied. Mr. Jerome and Miss Phillips

255. Hard of Hearing Therapy. II. 2 hr. PR: Speech 150 and consent. Theories and methods of teaching lip reading and speech to the hearing handicapped. Miss Phillips

256. Speech Anatomy. II. 3 hr. PR: Consent. Anatomical and physiological study of the vocal mechanism. Mr. Jerome

257. Clinical Practice. I, II. 2-3 hr. PR: Speech 252 and consent. Supervised therapy of the less severe speech and/or hearing problems. Miss Phillips

258. Advanced Clinical Practice. I, II. 2-3 hr. PR: Speech 257 and consent. Supervised therapy of severe speech and/or hearing problems. Mr. Jerome

Graduate Division

352. Advanced Speech Pathology. II. 3 hr. PR: Speech 250 and consent. Theories of causation and therapies for delayed speech development, cleft palate speech, and cerebral palsy speech. Mr. Jerome

359. Seminar: Speech Pathology. I, II. 2 hr. PR: 9 hours of speech re-education courses and consent. Mr. Jerome

THEATER

Upper Division

160. Theatrical Make-up. I. 2 hr. Lecture-laboratory course in art of stage make-up. Practical experience provided by doing make-up for University Players productions. Mr. Ford

161. Stagecraft. I, II. 3 hr. Lecture-laboratory course in elementary problems of scenery construction, scene painting, and stage lighting. Practical experience provided on University productions. Mr. Ford

162. Play Directing. I. 3 hr. PR: Speech 50. Fundamentals of directing stage and television play. Emphasis on work of director in relation to actor, stage, business, composition, movement, and rehearsal schedule. Mr. Boyd

164. Theater Workshop. I, II. 1-3 hr. Laboratory for production of University plays and informal stimulation of interest in creative arts. Open to all students. Mr. Ford

260. Advanced Acting. II. 2 hr. PR: Speech 6, Speech 50, and consent. Characterization, script analysis, style, theories, and techniques. Designed to meet needs of individual student. Mr. Boyd

261. Theatrical Dialects. I. 2 hr. PR: Consent. Study and mastery of 12 common dialects used in theater and radio. Mr. Boyd

262. Playwriting. II. 2 hr. PR: Speech 50 and consent. Development of creative ability in dramatic composition. Study of techniques and problems of playwright. Of cultural value, but primarily a writing course. Staff

263. Scene Design. II. 2 hr. PR: Consent. Lecture and laboratory in theories of scene design for stage and television, including actual construction of designs. Open to juniors, seniors, and graduate students. Mr. Burrows

264. Advanced Play Directing. II. 2 hr. PR: Speech 162, either Speech 161 or 164, and consent. Emphasis on work of director as an integrating artist. Display of high level of proficiency in direction of a one-act play required of all students enrolled. Mr. Boyd

265. History of Theater. I. 2 hr. PR: Speech 50 and consent. Historical survey of theatre from primitive times to present. Includes both oriental and occidental theatres. Mr. Burrows

266. Theater in Society. II. 2 hr. PR: Speech 50 and consent. Objectives of theater art, its position in our social structure, philosophy, objectives, and ethical responsibilities of the theater artist. Mr. Burrows

267. Advanced Scenery and Lighting. I, II. 2 hr. PR: Speech 161 and consent. A more technical study of scenery and lighting problems than is offered in Speech 161. Students are given opportunity for laboratory study through independent investigation and work on University Players' productions. Mr. Burrows

268. Creative Dramatics. I. 2 hr. PR: Speech 6 or consent. The study and practice of creative dramatic activity as a method of learning and self development for children. Mr. Boyd

Graduate Division

368. Seminar: Problems in Theater. I, II. 3 hr. PR: Consent. Mr. Boyd and Mr. Burrows

RELATED COURSES

170, 171, 172. Extra-Curricular Speech Activities. I, II. 1-3 hr. PR: Consent of head. Head of department may grant credit for any extracurricular speech activity which is assigned to and directed by member of speech staff. Staff

270. Psychology of Speech. II. 3 hr. PR: 6 hours of psychology and 18 hours of speech. Psychological principles involved in speech situation. Analysis or roles of emotion, habit, learning judgment, rating, and imagery in speech. Mr. Henning

275. Speech Problems of Children. Summer Session only. 3 hr. PR: Consent. Normal development of speech habits in children. Diagnostic and remedial procedures for speech defective. Relationship between speech and allied activities such as reading, spelling, and disciplinary problems. Mr. Henning

Graduate Division

301. Research Problems and Methods. I. 3 hr. PR: Graduate standing. Required of all candidates for Master's Degree in speech. Mr. Henning

370. Research. I, II. 1-3 hr. PR: Speech 301, a speech seminar, and consent of head of department. For graduate students in speech. Mr. Henning and Staff

375. Independent Study. I, II. 1-3 hr. PR: Speech 301, a speech seminar, and consent of head of department. Open to graduate students in speech who are pursuing independent problems in that field. Mr. Henning and Staff

399. Thesis. I, II. 2-4 hr. Mr. Henning and Staff

The College of Commerce

GENERAL INFORMATION

The College of Commerce of West Virginia University was established by the Board of Governors of the University on November 10, 1951, and began its initial year of operation in September, 1952. Courses leading to the bachelor's and master's degrees in business administration and economics have been offered by West Virginia University for many years in the Department of Economics and Business Administration which has been in the College of Arts and Sciences. After September, 1952, the Department of Economics and Business Administration became the College of Commerce. The College of Commerce is a member of the American Association of Collegiate Schools of Business.

Objectives

The primary objective of the College of Commerce is to prepare students for careers in business and for careers that require extensive training in economics. To achieve this aim, the curricula of the College are so constructed as to provide a broad cultural background; a core group of courses in the various phases of business administration and economics; and specialization in a particular field of business administration or economics.

Undergraduate Program

Undergraduate work is undertaken in two divisions; the lower division, in which Freshmen and Sophomores are enrolled, and the upper division, in which Juniors and Seniors are enrolled. The lower division curriculum is designed to afford students a liberal educational background and to provide a foundation for the work that follows. Students will be admitted to the College of Commerce upon completion of at least 58 semester hours of required and acceptable elective courses at a grade average of not less than "C."

In order to provide a well-rounded background in the different phases of business or economics, a core curriculum is required. These courses are: Economic Principles, Industrial Management, Business Law, Money and Banking, Accounting, Statistics, Labor Problems, Business Finance, and Marketing. (Certain exceptions are made in the Economics major option.) Since many students do not follow the careers for which they prepare in the University, this background of fundamentals should better enable them, in terms of versatility and adaptability, to meet the changing courses of their careers than does a highly specialized program. Furthermore, it affords a comprehensive educational foundation upon which specialized programs can be built.

Although narrowly specialized training is avoided, major concentration areas are offered. These permit upperclassmen to acquire a detailed knowledge of those phases that interest them particularly. The major fields of study are as follows: Accounting, Economics, Finance, Management, Marketing, Secretarial Training, and General Business.

Graduate Program

The graduate curriculum (for the Master's Degree) is designed to give qualified students the opportunity to pursue an advanced course of study in one or more specialized fields of business administration or economics. Each student's program is prepared in terms of his academic background and his interests, and is subject to the approval of his adviser.

Bureau of Business Research

The Bureau of Business Research, functioning as an integral part of the College, was organized for the purpose of undertaking research into business and economic problems—particularly those of West Virginia. This research program is undertaken by faculty members of the College of Commerce and by other staff members, under the general supervision of the Director of the Bureau of Business Research.

Publication of a series of monographs, the *West Virginia Business and Economic Studies,* was begun by the Bureau in 1949.

Building and Equipment

The physical facilities of the College of Commerce are modern and adequate. Armstrong Hall, which houses the College, was erected in 1950. It contains excellent classrooms and offices, well-equipped accounting and statistics laboratories, and the Bureau of Business Research.

Placement of Graduates

The faculty placement adviser in the College as well as all staff members will aid qualified graduates to find desirable employment. Graduates have access to the University Placement Office, which serves graduating seniors and alumni.

ADMISSION REQUIREMENTS

Regular Students

Applicants seeking admission to the College of Commerce for the purpose of obtaining a degree must have earned at least 58 semester hours of required and approved elective courses in the lower-division curriculum at a grade average of not less than "C."

REGISTRATION

Pre-Commerce freshmen and sophomores as well as juniors and seniors of the College of Commerce enroll at the beginning of each semester or term of the University.

REQUIREMENTS FOR DEGREES

Bachelor's Degree

The College of Commerce offers the degrees of Bachelor of Science in Business Administration and Bachelor of Science in Economics. Candidates for these degrees must have a minimum of 128 semester hours of work and have satisfied the College requirements as to courses and grades (256 grade points) in order to graduate. A candidate for the bachelor's degree must earn a minimum of 30 semester hours while enrolled as a student in the College of Commerce. Candidates for degrees to be conferred at the close of the second semseter must be present in person to receive their degrees unless excused by the Dean. No individual may be exempted from the provisions of this University regulation except by official action of the Board of Governors of the University.

A Second Bachelor's Degree

A student who has earned a Bachelor's Degree in one department or college of West Virginia University may become eligible for a second Bachelor's Degree by earning a minimum of 30 semester hours which include the core curriculum courses of the College of Commerce.

Master's Degree

Candidates for the degrees of Master of Science in Business Administration and Master of Arts in Economics must have a minimum of 30 semester hours (approved by advisers) taken as graduate students. A thesis is required of all candidates. For details about requirements for graduate degrees reference should be made to the *Announcements of the Graduate School.*

PROGRAMS OF STUDY

Lower Division

Pre-Commerce students are expected to complete the lower-division program of study within the first two years of residence at the University. Economics 1 and 2 are prerequisite to all upper-division courses in the College of Commerce. Certain exceptions are made for courses in Secretarial Studies when taken by persons registered in other colleges.

FIRST YEAR		SECOND YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
Eng. 1 and 2	6	Accounting 1 and 2	6
Hist. 1 and 2 or Humanities 1 and 2	6 or 8	Eng. 23[3]	3
Laboratory Science[1]	8	Econ. 1 and 2	6
Math. 8	3	Speech 11	3
Mil. or Air Sci. 1 and 2	4	Hist. 52 or Pol. Sci. 2	3
P.E. (General Program)	2	Mil. or Air Sci. 3 and 4	4
Electives (Men)[2]	6	P.E. (General Program) Women	2
Electives (Women)[2]	10	Electives (Men)[2]	8
		Electives (Women)[2]	10
TOTAL	35 or 37	TOTAL	33

Upper Division

Accounting

The accounting program is designed to prepare students for public accounting, and for positions as accountants in business, industry, and government.

JUNIOR YEAR		SENIOR YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
Intermediate Accounting (Accounting 111)	3	Advanced Accounting Problems I (Accounting 113)	3
Advanced Accounting (Accounting 112)	3	Business Finance (Finance 111)	3
Cost Accounting (Accounting 115)	3	Money and Banking (Economics 111)	3
Industrial Management (Man. 111)	3	Labor Problems (Economics 115)	3
Statistics (Economics 125)	3	Principles of Marketing (Marketing 111)	3
Business Law (Bus. Law 111 and 112)	6	Electives (Group 1)[4]	6
Electives (Group 1)[4]	6	Electives (Group 2)[5]	6
Electives (Group 2)[5]	3	Electives (Group 1 or 2)	3
TOTAL	30	TOTAL	30

[1] A laboratory science may be chosen from Biology, Chemistry, Physics, Botany, Zoology, Psychology, Geology, or Physical Science.

[2] Elective courses chosen from the following departments are recommended: English, History, Humanities, Mathematics, Philosophy, Political Science, Psychology, Sociology, Speech, or Foreign Language. Students who select a foreign language must complete 6 hours in the same language at the University. Students who plan to major in secretarial studies should schedule Secretarial Studies 61 and 62 in the sophomore year.

[3] Students majoring in secretarial studies should schedule Secretarial Studies 51 instead of English 23.

[4] Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser. Depending upon their particular areas of interest in accounting, students may select additional accounting courses from the following: Accounting 213, Income Tax Accounting I; Accounting 214, Income Tax Accounting II; Accounting 216, Advanced Cost Accounting; Accounting 217, Auditing Theory; Accounting 218, Auditing Practice; Accounting 220, Accounting Systems; Accounting 221, Accounting for Selected Industries; Accounting 224, Advanced Accounting Problems II; Accounting 230, Accounting Theory.

[5] Electives in Group 2 are to be selected with the approval of the adviser from upper-division courses of any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year.

Economics

This program is designed for those who wish to emphasize economics in their training for business; for those who wish to undertake graduate work for an advanced degree; for those who wish to enter government service; and for those who wish to teach.

JUNIOR YEAR

Courses	*Hr.*
Statistics (Economics 125)	3
Money and Banking (Economics 111)	3
Labor Problems (Economics 115)	3
Business Finance (Finance 111)	3
Economic Theory (Economics 221)	3
Electives (Group 1)[6]	6
Electives (Group 2)[7]	6
Electives (Group 1 or 2)	3
Total	30

SENIOR YEAR

Courses	*Hr.*
Public Finance (Economics 241)	3
Business Cycles (Economics 235)	3
History of Economic Thought (Economics 222)	3
Electives (Group 1)[6]	12
Electives (Group 2)[7]	6
Electives (Group 1 or 2)	3
Total	30

Finance

This program is designed to meet the needs of those students who plan to enter government service or to become associated with the financial or insurance departments of banks or of commercial and industrial organizations.

JUNIOR YEAR

Courses	*Hr.*
Industrial Management (Management 111)	3
Statistics (Economics 125)	3
Business Law (Bus. Law 111 and 112)	6
Business Finance (Finance 111)	3
General Insurance (Finance 115)	3
Money and Banking (Economics 111)	3
Electives (Group 1)[8]	6
Electives (Group 2)[9]	3
Total	30

SENIOR YEAR

Courses	*Hr.*
Problems in Business Finance (Finance 212)	3
Business Cycles (Economics 235)	3
Investments (Finance 150)	3
Labor Problems (Economics 115)	3
Principles of Marketing (Marketing 111)	3
Electives (Group 1)[8]	6
Electives (Group 2)[9]	6
Electives (Group 1 or 2)	3
Total	30

[6]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[7]Electives in Group 2 are to be selected with the approval of the adviser from any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in group 2 in the junior and senior years.

[8]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[9]Electives in Group 2 are to be selected with the approval of the adviser from upper division courses of any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year.

Management

This program is designed to prepare students for the several types of positions in management, especially those in production and in industrial relations. Although it does not provide highly technical training for the several types of positions in the field of management, it does provide a foundation upon which specialized training can be developed.

JUNIOR YEAR	
Courses	*Hr.*
Statistics (Economics 125)	3
Money and Banking (Economics 111)	3
Business Law (Bus. Law 111 and 112)	6
Labor Problems (Economics 115)	3
Principles of Marketing (Marketing 111)	3
Industrial Management (Management 111)	3
Electives (Group 1)[10]	6
Electives (Group 2)[11]	3
TOTAL	30

SENIOR YEAR	
Courses	*Hr.*
Business Finance (Finance 111)	3
Personnel Management (Management 216)	3
Production Management (Management 112)	3
Business Policy (Management 225)	3
Marketing Management (Marketing 112)	3
Electives (Group 1)[10]	6
Electives (Group 2)[11]	6
Electives (Group 1 or 2)	3
TOTAL	30

Marketing

This program is designed to prepare students for positions in the field of distribution. The required and suggested courses include work in the areas of sales management, sales promotion and advertising, marketing research and procurement as carried on by manufacturing, wholesaling, and retailing establishments.

JUNIOR YEAR	
Courses	*Hr.*
Business Finance (Finance 111)	3
Statistics (Economics 125)	3
Business Law (Bus. Law 111 and 112)	6
Industrial Management (Management 111)	3
Principles of Marketing (Marketing 111)	3
Marketing Management (Marketing 112)	3
Electives (Group 1)[12]	6
Electives (Group 2)[13]	3
TOTAL	30

SENIOR YEAR	
Courses	*Hr.*
Labor Problems (Economics 115)	3
Principles of Advertising (Marketing 120)	3
Principles of Retailing (Marketing 115)	3
Transportation (Economics 225)	3
Money and Banking (Economics 111)	3
Electives (Group 1)[12]	6
Electives (Group 2)[13]	6
Electives (Group 1 or 2)	3
TOTAL	30

[10]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[11]Electives in Group 2 are to be selected with the approval of the adviser from any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year.

[12]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[13]Electives in Group 2 are to be selected with the approval of the adviser from upper division courses of any department in the University other than in the College of Commerce. Journalism 113, Principles of Advertising in the School of Journalism, and Psychology 132, Psychology of Advertising and Selling in the College or Arts and Sciences are especially recommended for students interested in the field of advertising. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior years.

Secretarial Studies

This program is designed for students who intend to become secretaries to executives or supervisors of clerical activities in an office.

JUNIOR YEAR		SENIOR YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
Industrial Management (Management 111)	3	Statistics (Economics 125)	3
Business Law (Bus. Law 111 and 112)	6	Labor Problems (Economics 115)	3
Principles of Marketing (Marketing 111)	3	Business Finance (Finance 111)	3
Secretarial Training and Office Practice (Secretarial Studies 131)	3	Transcription (Secretarial Studies 132)	2
Shorthand 1 and 2 (Secretarial Studies 125 and 126)	8	Money and Banking (Economics 111)	3
Electives (Group 1)[14]	3	Electives (Group 1)[14]	9
Electives (Group 2)[15]	4	Electives (Group 2)[15]	4
		Electives (Group 1 or 2)	3
Total	30	Total	30

General Business

A student selecting the General Business Program has a wider choice of electives than does one who selects a more specialized program. This curriculum is recommended to those who have not decided upon a specialized field of study but who desire a well-integrated program in Business Administration.

JUNIOR YEAR		SENIOR YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
Statistics (Economics 125)	3	Personnel Management (Management 216)	3
Principles of Marketing (Marketing 111)	3	General Insurance (Finance 115)	3
Business Law (Bus. Law 111 and 112)	6	Money and Banking (Economics 111)	3
Industrial Management (Management 111)	3	Business Finance (Finance 111)	3
Labor Problems (Economics 115)	3	Electives (Group 1)[16]	9
Electives (Group 1)[16]	6	Electives (Group 2)[17]	6
Electives (Group 2)[17]	6	Electives (Group 1 or 2)	3
Total	30	Total	30

[14]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[15]Electives in Group 2 are to be selected with the approval of the adviser from any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in groups 1 and 2 in the junior year and electives from group 2 in the senior year.

[16]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[17]Electives in Group 2 are to be selected with the approval of the adviser from upper division courses of any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in group 2 in the junior and senior years.

The Commerce-Law Curriculum

The Commerce-Law curriculum is designed to provide a cultural background and a core group of courses in the various phases of business administration and economics as a foundation for the study of law.

LOWER DIVISION

Pre-commerce students are expected to complete the lower-division program of study within the first two years of residence at the University.

FIRST YEAR		SECOND YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
English 1 and 2	6	Accounting 1 and 2	6
History 1 & 2 or Humanities 1 & 2	6 or 8	English 23 (Business English)	3
Laboratory Science[18]	8	Economics 1 and 2	6
Math. 8	3	History 52 or Political Science 2	3
Mil. or Air Sci. 1 and 2	4	English 9 and 10	6
P. E. (General Program)	2	Speech 11 (Public Speaking)	3
Electives (Men)[19]	6	Mil. or Air Sci. 3 and 4	4
		Electives (Men)[19]	2
Total	35 or 37	Total	33

UPPER DIVISION

In the third year students will enroll in all upper-division core curriculum courses in the College of Commerce with the exceptions of Business Law 111 and 112.

THIRD YEAR	
Courses	*Hr.*
Finance 111 (Business Finance)	3
Mktg. 111 (Prin. of Marketing)	3
Mgt. 111 (Ind. Management)	3
Economics 125 (Statistics)	3
Economics 111 (Money and Banking)	3
Economics 115 (Labor Problems)	3
Electives Group 1[20]	12
Electives Group 2[21]	6
	36

In the fourth year students will enroll in the regular course work required by the College of Law. Students will be recommended for a Bachelor of Science degree in the College of Commerce upon the satisfactory completion of the requirements of the College of Commerce program and upon the satisfactory completion of the College of Law first year program provided a total of not less than 128 semester hours has been earned. The Bachelor of Laws degree will be conferred after a student has completed requirements of the College of Law at the end of the sixth year.

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[18]A laboratory science may be chosen from Biology, Chemistry, Physics, Botany, Zoology, Psychology, Geology, or Physical Science.

[19]Elective courses chosen from the following departments are recommended: English, History, Humanities, Mathematics. Philosophy, Political Science, Psychology, Sociology, Speech or Foreign Language. Students who select a foreign language must complete 6 hours in the same language at the University.

[20]Electives in Group 1 are to be selected with the approval of the adviser from courses offered in the College of Commerce.

[21]Electives in Group 2 are to be selected with the approval of the adviser from upper division courses of any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in Group 2.

COURSES OF INSTRUCTION

ACCOUNTING

1. Principles of Accounting. I, II. 3 hr. A study of the accounting cycle, journals and ledgers, working papers, and the preparation of financial and operating statements for individual proprietorships. Staff

2. Principles of Accounting. I, II. 3 hr. PR: Accounting 1. Accounting concepts applicable to partnerships and corporations, including manufacturing concerns; analysis of financial statements and budgets. Staff

111. Intermediate Accounting. I. 3 hr. PR: Accounting 2. Analysis of accounting theory and practice as applied to partnerships and corporations. Mr. Backer and Mr. O'Sullivan

112. Advanced Accounting. II. 3 hr. PR: Accounting 111. Accounting theories applicable to valuation of assets and determination of liabilities. Mr. O'Sullivan

113. Advanced Accounting Problems I. I. 3 hr. PR: Accounting 112. Accounting for consolidations, installment sales, consignments, receiverships, reorganizations, branches, foreign exchange, and estates and trusts. Mr. O'Sullivan

115. Cost Accounting. I. 3 hr. PR: Accounting 2. Characteristics of material, labor, and burden costs in factory production; job order and process cost accounting. Mr. O'Sullivan

213, 214. Income Tax Accounting. I, II. 3 hr. per semester. PR: Accounting 112. Bureau of Internal Revenue Regulations and related legal cases; preparation of tax returns for individuals, partnerships, and corporations. Mr. Backer

216. Advanced Cost Accounting. II. 2 hr. PR: Accounting 115. Accounting for standard costs and budgetary control. Mr. Backer

217. Auditing Theory. I. 3 hr. PR: Accounting 112. Procedure required for independent verification of financial statements; the duties and responsibilities of the auditor; the various types of examinations. Mr. Backer

218. Auditing Practice. II. 2 hr. PR: Accounting 217. Application of the procedures introduced in the previous semester, such as the preparation of audit work papers and reports, analysis of published statements, case studies, discussion of the Statement of Audit Procedure of the American Institute of Accountants. Mr. Backer

220. Accounting Systems. I. 2 hr. PR: Accounting 112. Installation of accounting systems, particularly as applied to procedure survey, design of accounting forms, use of hand written records, application of business machines, procedure reports. Mr. Skaggs

221. Accounting for Specific Industries. I. 2 hr. PR: Accounting 112. Accounting principles and financial reports peculiar to governmental agencies, banks, insurance companies, department stores, public utilities, brokerage houses, etc. Staff

224. Advanced Accounting Problems. II. 3 hr. PR: Minimum of 18 hours in accounting with an average grade of "B" or higher. Analysis and solution of representative C.P.A. problems. Mr. O'Sullivan

230. Accounting Theory. II. 2 hr. PR: Accounting 112 and consent of instructor. Origin and development of accounting principles and standards. Mr. Backer

331, 332. Thesis. I, II, 2 or 3 hr. Staff

BUSINESS LAW

111. Business Law. I, II. 3 hr. Introduction to the study of the legal system, courts and procedures; fundamentals of contracts and insurance. Mr. Farmer

112. Business Law. I, II. 3 hr. Fundamentals of the law of real and personal property; sales of personal property; liens and security transactions; negotiable instruments. Mr. Farmer

ECONOMICS

1. Principles of Economics. I. II. 3 hr. Organization and principles of economic activity. Freshmen are not admitted to Economics 1 and 2. Staff

2. Principles of Economics. I, II. 3 hr. PR: Econ. 1. Economics 1 and 2 are prerequisite to all upper-division courses. Staff

111. Money and Banking. I. II. 3 hr. Our system of monetary and banking arrangements, viewed in relation to functioning of the economic system as a whole. Mr. Fishman

115. Labor Problems. I. II. 3 hr. A survey of labor economics and human relations in the industry, including the interaction of economic forces, union policies, personnel practices and labor law. Mr. Somers

116. History of Labor in United States. II. 3 hr. PR: Economics 115 or consent of instructor. Origins and development of labor organizations with particular attention to those in the U. S. Mr. Somers

119. Economics of Consumption. I. 3 hr. Economic and social problems involved in consumer choices. Staff

125. Statistics. I. II. 3 hr. PR: Math. 2, 3, or 8. Methods of collecting, presenting, analyzing, and interpreting business data, with special emphasis on the analysis of frequency distribution, trend fitting, seasonal corrections, forecasting, and index numbers. A two-hour laboratory session is required in this course. Mr. Hanczaryk

205. Current Economic Problems. S. 3 hr. PR: Economics 1 and 2 or consent of the instructor. For students in Education only. A course designed to acquaint public school teachers with reliable source material in economics and to instruct them in studying current economic problems. Mr. Campbell

209. Problems in Economics. I, II. 1-3 hr. Staff

210. Comparative Economic Systems. II. 3 hr. Structure and processes of existing economic systems throughout the world including review of basic principles of free enterprise, socialistic, communistic, and fascistic societies. Comprehensive analysis based on current and recent experiments in these economies. Mr. Thompson

217. Trade Unionism. I. 3 hr. PR: Econ. 115. An analysis of the structure, government, attitudes, and policies of organized labor; the economic and political implications of union policy. Mr. Somers

218. Collective Bargaining and Labor Relations. II. 3 hr. PR: Econ. 115 or consent of instructor. Theory and practice of collective bargaining; causes of industrial peace and conflict; government regulation of labor relations. Mr. Somers

221. Economic Theory. I. 3 hr. Training and experience in use of analytical methods and techniques needed in dealing with fundamental economic problems. Mr. Thompson

222. History of Economic Thought. II. 3 hr. PR: Econ. 221. Economic ideas in perspective of historic development. Mr. Thompson

225. Transportation. I. 3 hr. Development of an inland transportation system and relations and policies of transport agencies. Mr. Campbell

230. Public Utilities. II. 3 hr. Development of regulation; economics of valuation and rate making. Mr. Campbell

235. Business Cycles. I. 3 hr. PR: Econ. 125, or consent of instructor. Industrial fluctuations; causes and possible remedies. Mr. Fishman

241. Public Finance. I. 3 hr. Fiscal organization and administration of modern governments; public expenditures; governmental revenues; problems of public debt. Mr. Tower

242. Taxation. II. 3 hr. PR: Econ. 241 or consent of instructor. Comparative study of taxes and tax systems. Particular emphasis upon tax structures of Federal government and State of West Virginia. Mr. Tower

245. Government and Business. II. 3 hr. Government in its role of adviser and umpire; analysis of governmental policies and practices affecting business. Mr. Newhouse

250. International Trade. II. 3 hr. PR: Consent of instructor. Development of trade among nations; theories of trade; policies; physical factors; trends; and barriers. Mr. Campbell

256. Advanced Statistics. II. 3 hr. PR: Economics 125 or equivalent. Correlation, index numbers, time series, analysis, statistical inference, and population forecasting. Mr. Hanczaryk

310. Contemporary Economic Theory. II. 3 hr. PR: Econ. 221. Recent developments in economic theory such as those relating to imperfect competition, monetary problems, and collectivist economy. Staff

315. Bibliography and Research. I. 2 hr. Sources of information; research procedures; analysis and interpretation of data; preparation of manuscripts. Mr. Coleman

319. Seminar in Economics. II. 2 hr. Staff

331, 332. Thesis. I, II. 2 or 3 hr. Staff

FINANCE

111. Business Finance. I. II. 3 hr. PR: Accounting 1 and 2 or consent of instructor. Legal and economic aspects of business formation, operation, and readjustment; social control of business activity. Mr. Tower

115. General Insurance. I. II. 3 hr. Theory of risk and its application to insurance; principles underlying all forms of insurance — life, property, casualty, fire, and surety. Mr. Wright

120. Life Insurance. I. 2 hr. PR: Finance 115. Principles of life-insurance protection; legal regulation of insurance companies. Mr. Wright

150. Investments. II. 3 hr. PR: Finance 111 or consent of instructor. Investment analysis and management for the individual and the firm. Mr. Tower

161. Real Estate. I. 3 hr. Principles and practices of real estate business. Mr. Wright

212. Problems in Business Finance. II. 3 hr. PR: Finance 111. A study of selected problems of business finance developed largely by the case method. Mr. Tower

216. Casualty Insurance. II. 2 hr. PR: Finance 115. Nature of and reasons for existing practices in casualty insurance. An analysis of liability, automobile, accident and health, workmen's compensation, and other casualty coverages. Mr. Wright

217. Property Insurance. I. 3 hr. PR: Finance 115. An analysis of Fire, Marine, and Inland Marine insurance with particular reference to the theories of underwriting used in these lines. The case method of study is utilized. Mr. Wright

331, 332. Thesis. I, II, 2 or 3 hr. Staff

MANAGEMENT

111. Industrial Management. I, II. 3 hr. The assignment of managerial personnel to the specialized activities, location and lay-out of manufacturing plants, stand

ardization and simplification of equipment and processes, procurement, issue and storage of material, production cost and labor efficiency, planning and scheduling of operations. Mr. Douglas

112. Production Management. II. 3 hr. PR: Management 111. The management and administration of manufacturing and production activities with the proper coordination and control of them to achieve production goals. Mr. Isaack

210. Problems of Small Business. II. 2 hr. PR: For seniors and graduate majors in the College of Commerce. Analysis of specific problems facing small businesses in our present-day American economy; specialized management course for students who wish to prepare as proprietors of a small business. Staff

213. Problems in Business Administration. I, II. 1-3 hr. Staff

216. Personnel Management. I, II. 3 hr. PR: Economics 115. Principles and practice in the direction, coordination, and remuneration of manpower. Mr. Isaack

225. Business Policy. II. 3 hr. PR: Senior standing and consent of instructor. Integrated study of policies, organization, facilities, and control techniques of business enterprises. Mr. Coleman

331, 332. Thesis. I, II. 2 or 3. Staff

MARKETING

111. Principles of Marketing. I, II. 3 hr. Principles, policies, and practices followed by producer, wholesaler, and retailer in distribution of commodities to consumer. Mr. Crooks

112. Marketing Management. I, II. 3 hr. PR: Marketing 111. Organizing, planning, and control of sales; operating a sales force; and formation of sales policies. Mr. Crooks

115. Principles of Retailing. I, II. 3 hr. PR: Marketing 111. Mathematics of retailing, organization, administration, merchandising, operations, and promotional activities. Mr. Crooks

120. Principles of Advertising. I, II. 3 hr. PR: Marketing 111 and 112. Introduction to principles and practices of advertising, including preparation of complete advertising campaign. Mr. Roberts

210. Industrial Purchasing. I. 3 hr. For seniors and graduate students. A survey of corporate procurement problems facing modern purchasing executives. Mr. Roberts

215. Marketing Research. I, II. 2 hr. PR: For seniors and graduate students in Marketing, and consent of instructor. The utilization of present-day marketing research techniques in the solution of practical marketing problems, with particular reference to West Virginia. Mr. Roberts

331, 332. Thesis. I, II. 2 or 3 hr. Mr. Roberts

SECRETARIAL STUDIES

51. Business Communications. II. 3 hr. PR: 6 hr. English composition and ability to type. Vocabulary and technique of business writing as applied to various forms of research and reporting. Miss Coutts

61. Typewriting. I. 2 hr. For secretarial majors or consent of instructor. Instruction in formation of accurate typing habits.* Miss Coutts

62. Typewriting. I, II. 2 hr. PR. Secretarial Studies 61 or equivalent. For secretarial majors or consent of instructor.* Miss Coutts

125. Shorthand. I. 4 hr. Gregg shorthand for beginners.* Miss Coutts

126. Shorthand. II. 4 hr. PR: Secretarial Studies 125, or equivalent. Intensive review of fundamental principles of Gregg shorthand; development of accurate writing and ability to transcribe business and manuscript materials.*
Miss Coutts

131. Secretarial Training and Office Practice. I, 3 hr. PR: Ability to type. Analysis of common working problems of a secretary. Special emphasis on sources of information, procedures in filing, handling mail, planning itineraries, preparing material for publication, preparing minutes of meetings, and preparing statistical material.*
Miss Coutts

132. Transcription. II. 2 hr. PR: Consent of instructor. For advanced students of typewriting and shorthand.*
Miss Coutts

*Credit will be allowed for Secretarial Studies majors in the College of Commerce and for students in the College of Education with Commerce teaching fields, only.

The College of Education

GENERAL INFORMATION

In 1901 a Department of Education was established in the College of Arts and Sciences of West Virgniia University. Subsequently, departments of education grew up in the College of Engineering and the School of Music. In 1927, the College of Education was established by the Board of Governors of the University to unify professional training for school service.

Through its undergraduate and graduate courses, its seminars, its laboratory schools, its cooperating public schools, its field services, and its encouragement and direction of educational investigation, the College of Education aims to contribute to educational efficiency by inculcating a liberal and more scientific conception of the functions of public schools and by providing the professional training of elementary-school and secondary-school teachers, principals, and supervisors, general school administrators, college teachers, educational counselors, and educational research specialists.

The College of Education comprises the College with its resident courses of instruction and its facilities for research; University High School with its opportunities for observation, student teaching, directed supervision, and experimentation; and cooperating public schools for supervised student-teaching experience.

ADMISSION REQUIREMENTS

Methods of Entrance

Candidates for admission to the University may be admitted either by examination or on the basis of official transcripts of record. Transcripts of college or university record must be sent by the registrar of the other institution directly to the Registrar of the University immediately after the student has completed his work in that institution. Transcripts must be received by the Registrar at least three weeks prior to the semester or term in which the applicant is interested. The transcripts received in support of applications for admission become the property of the University and are permanently filed in the office of the Registrar.

The requirements for admission to the College of Education are (a) graduation from a first-class high school with University entrance requirements satisfied and (b) 58 semester hours of approved college work with an average of at least two grade points per credit hour on all work presented. Students in other colleges or universities who contemplate transferring to the College of Education should so order their courses of study as to meet junior standing and should be fulfilling the curricular requirements for the certification of teachers.

Orientation and Selection

To assist students in choosing a career in the area of teaching and to maintain adequate standards for admission to teacher-training, the College of Education requires all students pursuing teacher-education programs to participate in the Orientation and Selection Program. The student is enrolled in this program concurrently with the first course taken in the College of Education.

Adviser

When the student enters the College of Education he is assigned an adviser from the College. The student will plan his program of work — required courses, electives, examinations, conference courses, etc. — in consultation with his adviser. Although

the adviser desires to be helpful, this does not absolve the student from becoming familiar with all pertinent regulations and planning his program of work in accordance with the objective of his choice.

West Virginia Board of Education Regulation for Certification of Teachers

The West Virginia Board of Education requires that one hundred semester hours of the one hundred twenty-eight required for certification shall be completed in regularly scheduled campus courses. The twenty-eight hours of permissible nonresidence courses may be earned by extension, home study (correspondence), radio, television, special examinations and/or army service. Eighteen of the twenty-eight hours may be applied to a Second Class Elementary Certificate and twelve hours to a Third Class Elementary Certificate. Any teacher who may be penalized by the revised ruling because of credits earned before June 1, 1954, may be certified under present regulations.

Maximum Work

Students may not, without special permission, register in the College of Education for more than 18 hours during any semester and 6 hours during any summer term. Students may register in the College of Education for more than 18 hours during any semester and 6 hours during any summer term only by special permission, provided that that they have gained the preceding semester a grade-point average of 2.9, or better, with no grade below C. Any student who desires to do irregular work, or to carry more than the prescribed maximum of hours, must obtain written permission from his adviser and the Scholarship Committee of the College. This permit is not valid until it has been filed with the Registrar.

REQUIREMENTS FOR DEGREES

To be eligible for recommendation for the degrees of Bachelor of Science in Secondary Education and Bachelor of Science in Elementary Education a candidate must:

1. Comply with the general regulations of the University concerning entrance, advanced standing, classification, examination, marks, grade points, etc.
2. Satisfy the General Requirements for certification.
3. Complete the required courses and the minimum number of hours of approved elective courses in Education.
4. Select and pursue two teaching fields for high-school teaching or the prescribed curriculum for elementary teaching.
5. Adhere to the patterns prescribed in completing the teaching fields.
6. Present 128 hours of approved college credit, with a general average of "C" as described under General Requirements for Certification. (Only credit earned in West Virginia University and at Potomac State College will be used in computing grade points for graduation.) The candidate must have completed 26 hours after enrolling in the College of Education.
7. Be at least 18 years of age, of good moral character, interested in educational work, and mentally, physically, and otherwise qualified to perform the duties of a teacher.

Fulfillment of the requirements for graduation from the College of Education qualifies a candidate to apply for recommendation for a West Virginia first-class teaching certificate.

General Requirements For First-Class Certificates

In order to teach in the public schools of West Virginia, one must hold a certificate issued by the West Virginia State Department of Education. Before any West Virginia University applicant is eligible to receive a first-class teaching certificate he must have

(1) met the minimum State requirements, (2) met the University degree requirements, and (3) been recommended by the Dean of th College of Education as herein prescribed.

The College of Education will inform each of its students who is a prospective teacher, and any other prospective teacher, upon request, of the requirements for certification, and assist him in preparing a program of studies to meet these requirements. It is the obligation of the student who desires such counsel to arrange a conference some time before the end of the sophomore year.

A candidate for certification is required to achieve a grade-point average of 2.0 ("C") or better, as follows: (1) on the total of college credits earned; (2) on the hours earned in Education; (3) in student teaching; and (4) in each of the high-school teaching fields or in the non-Education courses of the elementary field.

The Dean of the College of Education recommends candidates for first-class certificates only after the completion of work for the baccalaureate degree. To be eligible for recommendation by the University for any West Virginia five-year teaching certificate, the applicant must have done student teaching under the supervision of the College of Education.

At least 45 semester hours of upper-division work, West Virginia University standards, are required for all teaching certificates. The qualifications herein prescribed are minimum, not optimum or maximum, and must be met by all candidates.

For additional information about certification consult the Dean of the College of Education.

General Subject-Matter and Education Requirements for all First-Class Certificates Valid for Five Years

Required Courses	*Elementary School*	*First-class High School*	*Special Nonacademic*
English and Speech	*Hr.*	*Hr.*	*Hr.*
Written and Spoken English	6	6	6
English 1, 2			
Advanced Written & Spoken English	3	3	3
English 18 or English 21 (Com.)			
Study and Appreciation of Literature			
English 5 or 6 (American)	3)	3)	3)
OR	or	or	or
English 3 or 4 (English)	3)	3)	3)
Backgrounds of (Child) Literature	3		
Library Science 203			
Speech			
Speech 3 (Voice and Diction) or Speech 11 (Public Speaking)	3		
Minimum Requirement	18	12	12
Social Science	*Hr.*	*Hr.*	*Hr.*
Development of Social Institutions			
History 1, 2	6)	6)	6)
OR	or	or	or
Humanities 1, 2	8)	8)	8)
Fundamental Social Problems			
Social Science 1, 2	8	8	8
American History 52, 53	6		
West Virginia History 150	3		
Geography	3		
Geog. 107 (Introductory) or Geog. 109 (Econ.)			
Minimum Requirement	26-28	14-16	14-16

	Elementary School	*First-class High School*	*Special Nonacademic*
Science and Mathematics	*Hr.*	*Hr.*	*Hr.*
General Biology 1, 2		8)	8)
OR		or	or
Physical Science 1, 2 (general)		8)	8)
General Biology 1, 2 AND Physical Science 1			
OR			
Physical Science 1, 2 AND Biology 1	12		
Conservation Forestry 140	3		
Mathematics for teachers Arithmetic 6	3		
MINIMUM REQUIREMENT	18	8	8
	Hr.	*Hr.*	*Hr.*
Music			
Music in Human Relations Music 10	2	2	2
Music as an Art and Science Music 11	2		
Music Materials and Procedures Music 12	2		
MINIMUM REQUIREMENT	6	2	2
	Hr.	*Hr.*	*Hr.*
Art			
Art Appreciation: Art 30 or 130	2	2	2
Creative Expression in the Fine Arts: Art 1	2		
Creative Expression in the Applied Arts: Art 2	2		
MINIMUM REQUIREMENT	6	2	2
	Hr.	*Hr.*	*Hr.*
Physical Well-Being			
Orientation-Physical Education			
For Men, Physical Education 1, 2	0	2	2
For Men, Physical Education 1, 2, 43	4	0	0
For Women, Physical Education 1-16, 101, 102, 105	0	4	4
For Women, Physical Education 41, 42, 43	4	0	0
Health Education 101	2	2	2
MINIMUM REQUIREMENT	6	4-6	4-6

(Even if the Physical Education requirement for graduation from the University has been waived because of a special permit from the University Health Service, two semester hours in Physical Education are required of an applicant for a First-Class Certificate or for a Special Nonacademic Certificate.)

Professional Education	*Hr.*	*Hr.*	*Hr.*
Human Growth and Dev., Ed. 105, 106	6	6	6
Adolescent Adjustment, Ed. 114		3	3
Student teaching, Sec. Sch., Ed. 124		4	4
Prin. of Tchg. Sec. Schools, Ed. 120		2	2
Mat. and Meth. Sec. Sch., Ed. 150-170		2	2
Approved Electives in Sec. Ed.		3	
Stud. Tchg. El. Sch. Mus., Ed. 115			2
Math. and Meth. El. Sch. Mus., Ed. 130			2
Psych. and Management, El. Sch., Ed. 141	3		
Language Arts in El. Sch., Ed. 142	3		
Arithmetic in El. Sch., Ed. 143	2		
Social Studies in El. Sch., Ed. 144	2		
Science in El. Sch., Ed. 145	2		
Student Teaching in El. Sch., Ed. 146	6		
MINIMUM REQUIREMENT	24	20	21

NOTE: To be recommended by the University for any first-class certificate, students shall complete a minimum of 8 semester hours in student teaching and methods at the University.

PROGRAMS FOR ELEMENTARY-SCHOOL CERTIFICATES

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN ELEMENTARY EDUCATION AND FOR RECOMMENDATION FOR THE FIRST-CLASS ELEMENTARY-SCHOOL TEACHING CERTIFICATE

FOUNDATION—LOWER-DIVISION WORK

In preparation for admission to the College of Education and the work of preparing for teaching in elementary schools, students will register the freshman and sophomore years in the College of Arts and Sciences and pursue the program of general education that the State Board of Education has prescribed for all students who seek recommendation for teaching certificates. This program of prescribed work is included in the "Curriculum for Elementary-School Teachers" following herewith.

TRAINING—UPPER-DIVISION WORK

Admission: For admission to the prescribed courses in Elementary Education (Educ. 141, 142, 143, 144, 145, 146, and 147), including the noncredit Conference courses, students shall register the final two years in the College of Education.

Subject Matter: In lower-division work students should pursue the lower-division required courses indicated herein, so that the greatest possible number of hours of their electives may be courses giving upper-division credit. The electives indicated do not constitute a teaching field. Students in the program of Elementary Education do not complete majors and minors. In consultation with their advisers, students will choose electives in several fields of work according to their needs as well as their personal interests.

Graduation and Certification Requirements: To become eligible for recommendation for the degree of Bachelor of Science in Elementary Education and for the First-Class Elementary-School Teaching Certificate, the student must complete the following curriculum and plan of work with a grade average of 2.0 (or "C"), or better, in (1) non-Education courses, (2) Education courses, and (3) directed teaching; and have been enrolled in the College of Education for a least 26 semester hours of work, including a minimum of 8 semester hours in student teaching and methods taken at the University.

REQUIREMENTS FOR FIRST-CLASS ELEMENTARY-SCHOOL CERTIFICATE—MAY 3, 1950, REGULATION, W. VA. STATE BOARD OF EDUCATION

If, because of credits earned before June 1, 1950, a teacher with three or more years of elementary experience prior to the date of application for a certificate would be penalized by having to meet the course requirements for a first-class certificate in their entirety, he may be issued the certificate provided:

1. He is enrolled in the College of Education.

2. He meets minimum requirements as follows:

English		15 hrs.
Social Studies		18 hrs.
Science and Mathematics (to include both Science and Mathematics)		12 hrs.
Art		6 hrs.
Music		6 hrs.
Health and Physical Education		6 hrs.
Education		20-24 hrs.
To include:	Human Development and/or Educational Psychology	3-6 hrs.
	Methods and Management of Elementary Schools	5 hrs.
	Student Teaching	5 hrs.
	Electives in Elementary Education (Minimum)	7 hrs.

(At least 11 hours in Education, including a minimum of 3 hours in student teaching, shall be taken at West Virginia University.)

3. He meets all requirements for the B.S. degree in Education, including 45 hours of upper division work and the residence requirement of either 90 hours or the last 30 hours in actual residence at the University.

4. He takes no electives after June 1, 1950, until all regular requirements for the B.S. Degree in Elementary Education and the first class certificate have been met.

5. He counts no more than 24 semester hours in extension and/or correspondence.

6. He has a grade-point average of 2.0 ("C"), or better, as follows: (1) on the total of college credits earned (2) on the hours earned in Education; (3) in student teaching; and (4) in non-Education courses.

REQUIREMENTS FOR SECOND-CLASS ELEMENTARY-SCHOOL CERTIFICATE

English	Hr.
(15 *semester hours*)	
Written & Spoken English Eng. 1, 2	6
Advanced Written & Spoken English Eng. 18 or Eng. 21 (Com.)	3
Study and Appreciation of Literature Eng. 3 or 4 (Eng.), 5 or 6 (Am.)	3
Speech Speech 3 (Voice and Dict.) or Speech 11 (Pub. Spkg.)	3
Backgrounds of (Child) Lit. Lib. Sci. 203	3

Social Studies	
(17-19 *semester hours*)	
Development of Social Institutions Hist. 1, 2 OR Humanities 1, 2	6-8
Fundamental Social Problems Soc. Sci. 1, 2 History 150 OR Georgraphy 107 (Introd.) or Geography 109 (Econ.)	8 3

Science and Mathematics	
(11 *semester hours*)	
Biology 1 and 2 OR General Physical Sci. 1 and 2	8
Mathematics for Teachers Mathematics 6	3

Music	Hr.
(4 *semester hours*)	
Music in Human Relations Music 10	2
Music as an Art and Science Music 11 OR	2
Music Materials and Procedures Music 12	2

Art	
(4 *semester hours*)	
Art Appreciation Art 30 or 130	2
Creative Expression in the Fine Arts Art 1 OR	2
Creative Expression in the Applied Arts Art 2	2

Health and Physical Education	
(4 *semester hours*)	
Physical Education 1 and 2 or 43 (Men)	2
Physical Education 41 and 42 or 43 (Women)	2
Health Education 101	2

Education	
(17-24 *semester hours*)	
Human Growth and Dev., Ed. 105, 106	6
Psychology and Management, El. School, Ed. 141	3
Language Arts in El. Sch., Ed. 142, Arithmetic in El. Sch., Ed. 143, Social Studies in El. Sch., Ed. 144, Sci. in El. Sch., Ed. 145	5
Student Teaching	3

Electives
(24 *semester hours*)

OTHER REQUIREMENTS:

1. To pursue this program a student is required to (a) enroll in the College of Education and (b) have a third-class (standard normal) certificate, or have a minimum of one year's teaching experience in the public schools.

2. No more than 18 semester hours by extension and/or correspondence can be accepted.

3. A grade-point of 2.0 ("C"), or better, as follows: (1) on the total of college credits earned; (2) on the hours earned in Education; (3) in student teaching; and (4) in non-Education courses.

4. Thirty-two semester hours must have been completed in residence at the University or 32 semester hours must have been completed in residence at one institution with at least the last 16 hours completed in residence at the University.

REQUIREMENTS FOR SECOND-CLASS ELEMENTARY-SCHOOL CERTIFICATE MAY 3, 1950, REGULATION, W.VA., STATE BOARD OF EDUCATION

If, because of credits earned before June 1, 1950, a teacher with three or more years of elementary experience prior to the date of application for a certificate would be penalized by having to meet the course requirements for a second-class certificate in their entirety, he may be issued the certificate provided:

1. He is enrolled in the College of Education.

2. He meets minimum requirements as follows:

English	15 hrs.
Social Studies	15 hrs.
Science and Mathematics (to include both Science and Mathematics)	15 hrs.
Music	4 hrs.
Art	4 hrs.
Health and Ph ysical Education	4 hrs.
Education	15-24 hrs.
To include: Human Development and/or Educational Psychology	3-6 hrs.
Methods and Managements of Elemetary Schools	5 hrs.
Student Teaching	3-5 hrs.
Electives in Elementary Education (Minimum)	4 hrs.

3. He takes no electives after June 1, 1950, until all regular requirements for the second-class certificate have been met.
4. He counts no more than 18 semester hours in extension and/or correspondence.
5. He has a grade-point average of 2.0 ("C"), or better, as follows: (1) on the total of college credits earned; (2) on the hours earned in Education; (3) in student teaching; and (4) in non-Education courses.
6. He has completed 32 semester hours in residence at the University or 32 semester hours in residence in one institution with at least the last 16 hours completed in residence at the University.

REQUIREMENTS FOR PROVISIONAL ELEMENTARY-SCHOOL CERTIFICATE

Provisional Elementary-School Certificates (valid for one year for teaching in the elementary school) will be issued to applicants who:

1. Have an undergraduate degree and the recommendation of the Dean of the College of Education.
2. Are within 18 hours of meeting the requirements for a First-Class Elementary School Certificate.
3. Have completed 15 hours of Elementary Education, (including a course in student teaching) selected from courses applicable for a First-Class Elementary School Certificate.
4. Have completed a part of the required courses in English, social studies, science and mathematics, music, art, and physical education.

PROGRAM FOR FIRST-CLASS HIGH-SCHOOL CERTIFICATES

Education: Courses Required and Electives Approved for the First-Class High-School Certificate

(A minimum of 20 semester hours of approved Education courses is required for a West Virginia First-Class High School Teaching Certificate, and a maximum of 24 semester hours will be accepted.)

I. *Required Courses*	*Semester Hours*
Sophomore or Junior Year	
Ed. 105. Educational Psychology—Human Growth and Development	3
Ed. 106. Educational Psychology—The School Program and Pupil Development	3
Senior Year	
Ed. 124. Student Teaching	4) to be
Ed. 150-170. Materials and Methods	2) taken as
Ed. 120. Principles of Teaching in Secondary Schools	2) a block
Ed. 114. Educational Psychology—Adolescent Adjustment	3

II. *Approved Electives in Secondary Education—Junior or Senior Year* 3-7

Selected from Education:

Ed. 109, 136, 150-170, 197, 203, 212, 221, 222, 231, 233, 259, 262 or 266, 276 or 277, 284, 285, 291.

High-School Teaching Fields

Students desiring to qualify for a high-school certificate must complete the requirements in two teaching fields.

AGRICULTURE—VOC. AGR.	*First Teaching Field*
Minimum Required	50 hr.
I. *Required Courses*	
1. Farm Crops, Soils and Horticulture Agron. 1, 2, and Hort 1, or 39	11
2. Animal, Dairy, and Poultry Husbandry An. Husb. 11, 101, Dairy 11, and Poultry 1	13
3. Agricultural Economics Ag. Econ. 102 and 104	6
4. Ag. Mechanics Ag. Mech. 152, 153, 170, 252, 159, 175, 200, 254, or M.E. 7	9
5. Plant or Animal Pathology An. Path. 102 or Pl. Path. 103	3-4
II. *Electives in the above fields and in Agricultural Education, Entomology, Forestry, and Genetics*	7-8

Ag. Econ. 105, 131, 200, 206, 230, 271
Ag. Educ. 118
Ag. Mech. 151, 159, 170, 175, 200, 252, 254
Agronomy 205, 210, 211, 251 254
Genetics 111, 112
An. Husb. 138, 141, 142, 162, 167
An. Path. 206
Poultry 103, 105, 106, 108, 201, 213
Dairy 12, 123, 221, 222
Hort. 104, 106, 115, 117, 39, 206, 212 232
Entomology 102, 103

NOTE: Teachers of Vocational Agriculture must be approved by the State Supervisor of Vocational Agriculture and the Vocational Agriculture Teacher Trainer.

ART	*First Teaching Field*	*Other Teaching Field*
Minimum Required	32 hr.	24 hr.
I. Required Courses		
1. Freehand Drawing: Art 11 (111), 12 (112)	6	6
2. Design: Art 121, 122	6	6
3. Painting: Art 113, 114	6	6
4. Modeling: Art 126	2	2
5. History and Appreciation of Art: Art 30 or 130, 105, 106	8	4
II. Electives (unrestricted)	4	..

BIOLOGICAL SCIENCE	*First Teaching Field*	*Other Teaching Field*
Minimum Required	32 hr.	24 hr.
I. Required Courses		
1. Biology 1, 2	8	8
2. Chemistry 1, 2 or Phys. Sci. 1, 2	8	6

II. Electives	16	10

Must include minimum of 5 hours in plant life and 5 hours in animal life.

1. Animal Pathology 102, 206
2. Bacteriology 141
3. Biology 201, 202, 204, 205, 211, 212
4. Botany 104, 161, 224, 227, 229, 266
5. Entomology 102
6. Forestry 140, 141, 144, 145, 183
7. Genetics 111, 112, or 221
8. Plant Pathology 103, 203
9. Zoology 171, 210, 221, 265, 229

BIOLOGICAL AND GENERAL SCIENCE	*First Teaching Field*	*Other Teaching Field*
Minimum Required	42 hr.	34 hr.
I. Required Courses		
1. Biology 1, 2	8	8
2. Chemistry 1, 2	8	8
3. Physics 1, 2	8	8
4. Geology 1, 2	3-4	3-4
II. Electives	14-15	6-7

1. Electives selected from those listed for teaching field in Biological Science —minimum of 8 hours for either teaching field. Must include minimum of 4 hours in plant life and 4 hours in animal life.
2. Chemistry 5, 6, 10, 15, 31, 63
3. Physics 113 ,114, 116, 117, 118
4. Geology 3, 170

NOTE: A candidate for a teaching certificate who elects Biological and General Science as a first teaching field may not elect Biological Science as a second teaching field.

COMMERCE	*First Teaching Field*	*Other Teaching Field*
Minimum Required	32 hr.	27 hr.
I. Required Courses		
1. Business Mathematics (Math. 8)	3	3
2. Accounting: Accounting 1, 2	6	6
3. Retailing: Marketing 111, 115	3	3
4. Typewriting: Secretarial Studies 61, 62	4	4
5. Shorthand: Secretarial Studies 125, 126	8	8
6. Secretarial Training and Office Practice: Secretarial Studies 131	3	3
II. Electives (unrestricted in the field)	5	..

NOTE: Completion of the following courses (9 semester hours) will qualify the candidate to teach Commerce (Business Principles) in addition to Commerce (Occupational): Economics 111, Money and Banking, Economics 119, Economics of Consumption; and Business Law 111.

ENGLISH	*First Teaching Field*	*Other Teaching Field*
Minimum Required	35-36 hr	24 hr.
I. Required Courses (Exclusive of Freshman Composition)		
1. Written and Spoken English ..... English 18 or 21 (3 hr.) Speech 3, 6, 11, or 29 (3 hr.)	6	6
2. Literature ..... English 3 and 4, or 163, and 164 (6 hr.) (Survey: English Literature) English 5 and 6 (6 hr.) (American Literature)	12	12
II. Electives	17-18	6
1. Literature ..... (Upper-division period or type courses: include not more than 3 hr. in any one type or period. Suggested choices: 142, 160, 161, 166, 173, 175, 138 or 139, 140, 141; one or more "200" courses in authors or periods of special interest to the student.)	12	6
2. Two of the following: ..... Journalism 215 (2 hr.) Library Science 1 or 101 (3 hr.) Speech 162 (3 hr.) (Speech 50 may be substituted)	5-6	..

FRENCH	*First Teaching Field*	*Other Field Teaching*
Minimum Required	30 hr.	24 hr.
I. Required Courses		
1. Elementary French: French 1 and 2	6	6
2. Intermediate French: French 5 and 6	6	6
3. Advanced Grammar, Conversation and Composition: French 109, 110, 231	6	6
4. Literature of the 17th, 18th, and 19th centuries: French 115, 116, 118	6	6
II. Elective Courses in French 103, 104, 217	6	..

NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 6 hours deduction, unless the equivalent courses are taken for University credit.

GERMAN	*First Teaching Field*	*Other Teaching Field*
Minimum Required	30 hr.	24 hr.
I. Required Courses		
1. Elementary German: German 1 and 2	6	6
2. Intermediate German: German 3 and 4	6	6
3. Spoken German: German 111 and 112	6	6
4. Survey of German Lit.: German 245	3	3
5. History of German Lang.: German 251	3	..
II. Elective Courses in German (unrestricted)	6	3

NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 6 hours deduction, unless the equivalent courses are taken for University credit.

HOME ECONOMICS—Vocational Certificate	*First Teaching Field*
Minimum Required	40 hr.
I. Required Courses	
1. Family Economics and Home Management: Selected from Home Econ. 124, 214, 224, 234	8-12
2. Housing, Home Furnishing, Equipment and Applied Art: Selected from Home Econ. 3, 23, 123, 254, 133, 233	8-12
3. Foods and Nutrition: Selected from Home Econ. 1, 101, 121, 15, 115, 215	8-15
4. Clothing and Textiles: Selected from Home Econ. 2, 12, 102, 222, 17, 117, 217	8-15
5. Family Relationships and Child Development: Selected from Home Econ. 114, 106, 206	6-9

NOTE: Teachers of Vocational Home Economics must be approved by the State Supervisor of Vocational Home Economics.

HOME ECONOMICS—General Certificate	*First Teaching Field*	*Other Teaching Field*
Minimum Required	36 hr.	24 hr.
I. Required Courses		
1. Foods and Nutrition: Home Econ. 1, 15, 115, 101	8	6
2. Textiles and Clothing: Home Econ. 2 or 12,17; electives chosen from courses with numbers ending in 2 or 7	8	6
3. Applied Art: Home Econ. 3, 23, 123, 133, 233 (23 or 123 required)	8	4
4. Home Management (to include Home Management Residence): Home Econ. 114, 224, 234	8	3
5. Child Development: Home Econ. 106	3	3
II. Electives (unrestricted)	1	2

INDUSTRIAL ARTS	*First Teaching Field*	*Other Teaching Field*
Minimum Required	32 hr.	24 hr.
I. Required Courses		
1. Drawing—(at least one course in Mechanical Drawing) Mechanical Engineering 20, 25 or 26 Art 11 (111), 12 (112), 121, 122	4	4
2. General Shop—Education 107, 108	3	3
3. Organization of Industrial Arts—Ed. 194	2	2
4. Shops Total	23	15

NOTE: To be taken in three or more shop areas with a minimum of 6 semester hours in one and not less than 3 semester hours in each additional area, such as:

Metal Working—Ed. 240, 241, 249
Automotive—Ed. 247, 320-321; Ag. Mech. 175
Ceramics—Ed. 243; Art 106
Design—Art 121, 122
Electricity—E.E. 10, 110; Ag. Mech. 170, 270; Ed. 248
Foundry—Ed. 107, 108
General Metal—Ed. 104, 107, 108, 249
Leather—Ed. 107, 108, 244, 320, 321; Art 127

Machine Shop—Mech. Eng. 11, 12, 16, 105, 106, 107
Printing—Ed. 246; Journalism 110
Photography—Physics 116
Radio—Physics 113, 114
Plastics—Ed. 245
Sheet Metal—Ed. 249
Woodwork—Ed. 102, 103, 204; Ag. Mech. 20, 252
Welding—M.E. 7

NOTE: No credits may be counted twice by being submitted in more than one group.

ITALIAN	*First Teaching Field*	*Other Teaching Field*
Minimum Required	30 hr.	24 hr.
I. Required Courses		
1. Elementary Italian: Italian 1 and 2	6	6
2. Intermediate Italian: Italian 5 and 6	6	6
3. Grammar, Composition, and Conversation: Italian 109 and 110	6	6
4. Italian Literature: Italian 115 and 116	6	6
II. Electives	6	..

NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 6 hours deduction, unless the equivalent courses are taken for University credit.

LATIN	*First Teaching Field*	*Other Teaching Field*
Minimum Required	30 hr.	24 hr.
I. Required Courses		
1. Grammar and Composition: Latin 1 and 2	6	6
2. Cicero's Orations: Latin 4, or 203	3	3
3. Vergil's Aeneid: Latin 235	3	3
II. Electives (unrestricted)	18	12

NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 6 hours deduction, unless the equivalent courses are taken for University credit.

LIBRARY SCIENCE	*First Teaching Field*	*Other Teaching Field*
Minimum Required	26 hr.	26 hr.
I. Required Courses		
1. Using Books and Libraries: L.S. 1	2	2
2. Reference and Bibliography: L.S. 101	3	3
3. Children's Literature and Story Telling: L.S. 203	3	3
4. Book Selection: L.S. 104	3	3
5. Book Selections for Adolescents: L.S. 205	3	3
6. History of Books and Libraries: L.S. 106	3	3
7. Administration of School Library: L.S. 207	3	3
8. Library Practice: L.S. 108	3	3
9. Cataloguing and Classification: L.S. 102	3	3

MATHEMATICS	*First Teaching Field*	*Other Teaching Field*
Minimum Required	24 hr.	22 hr.
I. Required Courses		
1. College Algebra: Math. 2 or 3	3	3
2. Plane Trig: Math. 4 or 10	3	3
3. Solid Geometry: Math. 7	3	3
4. Analytic Geometry: Math. 5	4	4
5. Calculus: Math. 107 and 108	8	..
II. Electives	3	9
Any of the following: Math. 106, 107, 108, 130, 238, 239, 240, 241, 244, 246, 247		

NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 2 hours deduction, unless the equivalent courses are taken for University credit.

MUSIC	*First Teaching Field*	*Other Teaching Field*
Minimum Required	50 hr.	24 hr.
I. Required Courses		
1. Theory Music 1, 2, 3, 117, 118, or 119	16	6
2. Applied Music, Including Piano, Voice, Band and Orchestral Instruments Selected from Music 89, 90, 150, 190 ,191, 192, 193, 194, 195, 196, 197	16	9
3. History or Appreciation of Music Selected from Music 79, 80, 240, 241, 280, 281	6	3
4. Conducting and Musical Organizations Music 181 or 182 (2 hrs. each) Music 183, 185 (3 hrs. each) Four hours selected from Music 100, 101, 102, 103, 104	12	4
II. Electives (unrestricted)	0	2

NOTE: Students applying for the special nonacademic Certificate are required to complete 50 hours in Music.

PHYSICAL EDUCATION	*First Teaching Field*	*Other Teaching Field*
Minimum Required	35 hr.	26 or 27 hr.
1. Anatomy and Kinesiology, Physical Education 175	5	5 OR
2. Physiology: Zoology 171	4	4
3. Health Education: Health Education 2, 101	4	4
4. Principles of Organization and Administration of Physical Education—Physical Education 278	3	3
5. Physical Inspection and Correction of Remedial Defects—Men, Physical Education 176		
Women, Physical Education 178	2	2
6. Theory and Practice in Physical Education	17	13

	Men	*Women*	*Men*	*Women*
A. Orientation: Physical Education 71, Recreation 1	4	4	0	0
Physical Education 71	0	0	2	2
B. Team Sports: Physical Education 151, Physical Education 152	5	0	5	0
Team Sports: Physical Education 31, 32, 63	0	3	0	3
C. Recreation Activities: Phys. Educ. 52, 53, 54	3	0	3	0
Recreational Activities: Physical Education 33, 54, 61	0	3	0	3
D. School and Community Activities: Physical Education 121, Recreation 2, Physical Education 66	3	0	2-4	0
Physical Education 66, 127, Recreation 2	0	4	0	2-4
E. Rhythmic Activities: Physical Education 132, 135	2	0	1	0
Physical Education 35, 67, 132, 133, 135	0	3	0	3

PHYSICAL SCIENCE	*First Teaching Field*	*Other Teaching Field*
Minimum Required	36 hr.	24 hr.
I. Required Courses		
1. Chemistry: Chemistry 1 and 2	8	8
2. Chemistry: Chemistry 5 or 105; 6 or 106; 31 or 131	4	4
3. Physics: Physics 1 and 2; 111 and 112	8	8
II. Electives—at least four hr. must be in Chemistry and/or Physics	16	4
1. Chemistry		
2. Physics		
3. Geology (not Geography)		

NOTE: A candidate for a teaching certificate who elects Physical Science as a first teaching field may not elect Physical and General Science as a second teaching field. Phys. Sci. 1, 2 not accepted.

PHYSICAL AND GENERAL SCIENCE	*First Teaching Field*	*Other Teaching Field*
Minimum Required	42 hr.	34 hr.
I. Required Courses		
1. Chemistry: Chem. 1 and 2	8	8
2. Chemistry: Chem. 5 or 105, 6 or 106, 31 or 131	4	4
3. Physics: Physics 1 and 2	8	8
4. Biology: Biology 1 and 2	8	8
5. Geology: Geology 1 and 2	4	4
II. Electives: At least four hours must be in Chemistry and/or Physics	10	2
1. Chemistry		
2. Physics		
3. Geology (not geography)		
4. Biology		

NOTE: A candidate for a teaching certificate who elects Physical and General Science as a first teaching field may not elect Physical Science as a second teaching field.

SOCIAL STUDIES	*First Teaching Field*	*Other Teaching Field*
Minimum Required	30 hr.	24 hr.
I. Required Courses (Exclusive of General Social Studies Requirements)		
1. History: History 52 and 53; 150 or 250	9	9
2. Political Science: Pol. Sci. 2, 106, 110	3	3
3. Economics: Econ. 1 or 2 (Only 3 hr. required for certification, but students desiring to take upper division courses in Economics must have both 1 and 2 as prerequisites.)	3	3
4. Sociology: Sociol. 1, 2, 102, or any 200 course except 202 and 246	3	3
5. Geography: Geog. 107 or 109	3	3
II. Electives (upper division courses from the five departments listed above)	9	3

SPANISH	*First Teaching Field*	*Other Teaching Field*
Minimum Required	30 hr.	24 hr.
I. Required Courses		
1. Elementary Spanish: Spanish 1 and 2	6	6
2. Intermediate Spanish: Spanish 5 and 6	6	6
3. Adv. Grammar, Conversation and Pronunciation: Spanish 109 and 110	6	6
4. Survey of Literature: Spanish 211 and 212	6	6
II. Elective Courses in Spanish 103, 104, 216	6	..

NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 6 hours deduction, unless the equivalent courses are taken for University credit.

SPEECH	*First Teaching Field*	*Other Teaching Field*
Minimum Required	36 hr.	24 hr.
I. Required Courses		
1. Voice and Diction: Speech 3	3	3
2. Acting: Speech 6	3	0
3. Public Speaking: Speech 11	3	3
4. Oral Interpretation: Speech 29	3	0
5. Group Discussion: Speech 120	3	0
6. Argumentation and Debate: Speech 121	3	3
7. Introduction to Radio: Speech 140	3	0
8. Stage Craft: Speech 161	3	3
9. Play Directing: Speech 162	3	3
10. Speech Correction: Speech 250	2	2
11. Speech Correction Lab.: Speech 251	1	1
II. Electives in Speech (unrestricted)	6	6

Requirements for Provisional High-School Certificates

Provisional High-School certificates (valid for 1 year for teaching in junior and/or senior high schools) will be issued to applicants who meet the following requirements:

1. Graduation and recommendation by the Dean of the College of Education.

2. General Requirements: Fifteen hours of secondary education, including a course in student teaching, to be selected from the courses applicable for a first-class

high-school certificate. Three-fourths of the teaching subject-matter requirements and not fewer than one-half of the requirements of each division of each teaching field as designated for first-class high-school certificates.

MASTER OF ARTS

REQUIRED FOR ADMISSION TO GRADUATE WORK IN EDUCATION

1. General requirements for admission to the Graduate School.
2. Seventeen semester hours of approved undergraduate credit in Education.

REQUIREMENTS FOR ADMISSION TO CANDIDACY FOR THE MASTER'S DEGREE IN EDUCATION

Admission to the Graduate School and to graduate work in Education do not constitute admission to candidacy for a Master's Degree. Graduate students shall apply to the *Committee on Admissions* for admission to candidacy for the Master's Degree in Education. Applicants whose undergraduate average is the equivalent of 2.5 or better may be admitted to candidacy when they have met the following requirements:

1. A first-class teaching certificate or at least 17 semester hours of approved undergraduate credit in Education.
2. A maximum of 14 semester hours of graduate credit completed prior to admission to candidacy. At least 6 of these hours must be in Education and must have been taken in residence at West Virginia University. Students can take no more than 8 hours in extension prior to their enrollment in residence at the University.
3. A satisfactory score on preliminary examinations in general ability, written English, and such other areas as the *Committee on Admissions* may prescribe.
4. A minimum of one year's teaching experience for administrative programs, such as principals, superintendents, and supervisors.
5. A candidate for an administrative program must secure written approval from the adviser in order to be admitted to the program.

The *Committee on Admissions,* appointed by the Dean of the College of Education, will consider individually those applicants for admission to candidacy who do not meet these criteria.

OPTIONAL ROUTES TOWARDS A MASTER'S DEGREE IN EDUCATION

A. Thirty semester hours, including a maximum of four to six semester hours of research (Education 361, Thesis) and the remaining hours in approved course work. Examination (oral, written, or both, at the discretion of the individual members of the committee) by the candidate's advisory committee.

B. Thirty semester hours, including three semester hours of research (Ed. 360, Problem), selected in conference with the candidate's committee, directed by the adviser, with final approval by the committee, and 27 semester hours of approved course work. Examination (oral, written, or both, at the discretion of the individual members of the committee) by the candidate's advisory committee.

Thirty-six semester hours, including a minimum of 10 semester hours of approved course work outside the field of Education. Examination (oral, written, or both, at the discretion of the individual members of the committee), by a committee of at least three.

Graduate Advisers

Each Education student enrolled in the Graduate School will be directed by the appropriate one of the following advisers:

Professor Allen: Industrial Arts and Vocational Education.
Professor Baldwin: Superintendents; general school administration.
Professor Brennan: Industrial Arts.
Professors Brown and Noer: Home Economics Education.
Professor Butler: Vocational Agricultural Education.
Professor Feaster: Graduate specials.
Professors Fish and Kennedy: Elementary-school classroom teachers.
Professor Good: Secondary-school Classroom Teachers.

Professor Jarecke: Guidance.
Professor Scott: General and special supervisors.
Professor Smotherman: Elementary-school principals.
Professor Schultz: Secondary-school principals.

Graduate Professional Curricula

CURRICULUM FOR SUPERINTENDENTS

Degree: Master of Arts

Required courses ..... 24 Hr.

Ed. 203. Organization and Administration of Adult Education, OR Ed. 357, Organization and Administration of Vocational Education 2
Ed. 231. Philosophy of Education, OR Ed. 233, Educational Sociology ...2
Ed. 301. Introduction to Educational Research 2
Ed. 316. The Elementary-school Subjects 2
Ed. 326. Practice in the Supervision of Elementary-school Instruction ...2
Ed. 335. The Elementary-school Curriculum, OR Ed. 336, The Secondary-school Curriculum 2
Ed. 339. Public-school Organization and Administration 2
Ed. 340. Public-school Finance 2
Ed. 341. School Buildings and Equipment, OR Ed. 343, School Surveys, OR Ed. 344, Staff Personnel Administration 2
Ed. 346. Principles of Supervision 2
Ed. 353. The Secondary-school Principal 2
Ed. 356. The Elementary-school Principal 2

Other requirements ..... 6-12 Hr.

Option A—Thesis (Ed. 361), 4-6 hr. 4-6
Option B—Problem (Ed. 360), 3 hr., Elective, 3 hr., to be chosen with adviser's approval 6
Option C—Electives, at least 10 hours in academic fields, to be chosen with adviser's approval 12

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

NOTE: For those who already hold a Master's Degree and who wish to qualify for the University's recommendation for a Superintendent's Certificate, the following courses (described above) will satisfy:

I. *Required Courses* ..... 18 Hr.

General Administration: Ed. 339; 340; 203 or 357; 341 or 343 or 344 ..4-8 Hr.
Elementary-school Administration: Ed. 326, 335*, 356 .....4 Hr.
Secondary-school Administration: Ed. 327, 336*, 346, 353 .....4 Hr.

The School Laws of West Virginia require "At least 5 years of experience in teaching, administration or supervision, or any combination thereof aggregating five years." In addition, a health certificate is required.

Since most of the courses listed above have prerequisites, the consent of the instructor must be obtained before enrollment.

*Ed. 335 or 336 (not both) can be accepted.

CURRICULUM FOR HIGH-SCHOOL PRINCIPALS[1]

Degree: Master of Arts

I. *Required Courses* ..... 14 Hr.

Ed. 301. Introduction to Educational Research 2
Ed. 327. Practice Supervision of Secondary-school Instruction (take late) .2
Ed. 336. The Secondary-school Curriculum 2
Ed. 339. Public-school Organization and Administration (take early) ...2
Ed. 346. Principles of Supervision (take early) 2

[1]Those already holding a Master's Degree, who desire to qualify for a West Virginia high school principal's certificate, will be required to have the fourteen hours listed in Section I and six hours from Section II to be recommended for a certificate.

Ed. 353. The Secondary-school Principal (take late) 2
Ed. 372. Statistical Methods in Education (take early) 2

II. *Cognates* ..... 6-8 Hr.

Ed. 259. The Music Education Program 2
Ed. 284. Pupil-personnel Administration 2
Ed. 373. Basic Course in Principles and Practices of Guidance 3
Ed. 322. Organizing Programs of Audio-visual Instruction 2
Ed. 357. Organization of Programs in Vocational Education 2
Ed. 360. Problem in Education OR Ed. 361, Thesis in Education 3-6
Phys. Ed. 378. Problems in Physical Education, Health, and Recreation .. 3
Social Work 212. Social Agency Observation OR Social Work 260, Problems of Child Welfare OR Social Work 285, Introduction to Public Welfare 3

III. *Academic* ..... 10-14 Hr.

Academic courses in two or more recognized secondary-school teaching fields. These courses are to be chosen with the adviser's approval and are to be of a nature which will better qualify the principal to supervise the classroom instruction of the kinds of courses offered in modern secondary schools.

IV. *Free Electives* ..... 0-6 Hr.

TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

CURRICULUM FOR ELEMENTARY-SCHOOL PRINCIPLES[2]

Degree: Master of Arts

I. *Required Courses in Education* ..... 18 Hr.

Ed. 301. Introduction to Educational Research (take early) 2
Ed. 306. Social Studies in the Elementary School
OR
Ed. 307. Science in the Elementary School 2
Ed. 308. The Teaching of Arithmetic 2
Ed. 309. The Teaching of Reading 2
Ed. 326. Practice in the Supervision of Elementary-school Instruction (take late) 2
Ed. 335. The Elementary-school Curriculum (take early) 2
Ed. 339. Public-school Organization and Administration (take early) ... 2
Ed. 346. Principles of Supervision (take early) 2
Ed. 356. The Elementary-school Principal (take late) 2

II. *Approved Electives in Education* (See option A, B, or C)

Ed. 302. Primary-Kindergarten Education 2
Ed. 304. Corrective Techniques in Reading Instruction 2
Ed. 305. Problems in Reading Instruction 2
Ed. 312. Evaluation of Pupil Progress 2
Ed. 313. Elementary-school Guidance 2
Ed. 314. Problems in Elementary Education 2
Ed. 315. Current Practice in Elementary Education 2
Ed. 316. The Elementary-school Subjects 2
Ed. 348. Human Development and Behavior 2
Ed. 366. Teaching the Language Arts 2
Ed. 368. Extra-curricular Activities 2

III. Op. A: Thesis, 6 hr.; Electives, 6 hr. 12
OR
Op. B: Problems, 3 hr.; Electives,* 9 hr. 12
OR
Op. C: Academic, 10 hr.; Electives,* 8 hr. 18

TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

*4 hr. of these electives shall be selected from Group II.

CURRICULUM FOR SECONDARY-SCHOOL CLASSROOM TEACHERS[3]

I. *Graduate Courses in Education* ..... 12-20 Hr.

A. Required Courses in Education ..... 5 Hr.
- Ed. 336. The Secondary-school Curriculum (take early) 2
- Ed. 373. Basic Course in Principles and Practices of Guidance (take early) 3

B. Cognates in Education ..... 5 Hr. (min.)
- Ed. 221. Audio-visual Resources for Instruction 2
- Ed. 284. Pupil-personnel Administration 2
- Ed. 285. The Junior High School 2
- Ed. 339. Public-school Organization and Administration 2
- Ed. 348. Human Development and Behavior 3

C. Other Phases of Education ..... 2 Hr. (min.)
- Ed. 203. Organization and Administration of Adult Education 2
- Ed. 224. Advanced Student Teaching 2
- Ed. 258. Education for Special Groups 2
- Ed. 259. The Music Education Program 2
- Ed. 262. Vocational Home Economics in Secondary Schools 2
- Ed. 270. Special Problems or Workshop 1-4
- Ed. 301. Introduction to Educational Research 2
- Ed. 309. The Teaching of Reading 2
- Ed. 318. Planning Programs and Courses for Vocational Agriculture Departments 2
- Ed. 357. Organization and Administration of Vocational Education 2
- Ed. 360. Problem in Education 1-3
- Ed. 361. Thesis in Education 1-6
- Ed. 364. Advanced Methods in Teaching Industrial Arts 2
- Ed. 366. Teaching the Language Arts 3
- Ed. 367. Teaching the Social Studies in Secondary Schools 3
- Ed. 368. Extra-curricular Activities 2
- Ed. 372. Statistical Methods in Education 2
- Ed. 375. Individual Inventory Techniques 2

D. Approved Electives ..... 0-8 Hr.
Ed. 222, 231, 233, 251, 266, 276, 277, 283, 291, 322, 346, 385, 395-8.

II. *Graduate courses in one of the candidate's certified teaching fields* ..... 10-18 Hr.

III. *Graduate courses in another of the candidate's certified teaching fields* 6 Hr. (min.)

IV. *Free electives* ..... 0-6 Hr.

TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

CURRICULUM FOR ELEMENTARY-SCHOOL CLASSROOM TEACHERS[4]

Degree: *Master of Arts*

I. Required Courses in Education ..... 12 Hr.
- Ed. 306. Social Studies in the Elementary School 2
- Ed. 307. Science in the Elementary School 2
- Ed. 308. The Teaching of Arithmetic 2
- Ed. 309. The Teaching of Reading (take early) 2
- Ed. 312. Evaluation of Pupil Progress (take late) 2
- Ed. 335. The Elementary-school Curriculum (take early) 2

[2]Completion of this curriculum fulfills the Education requirements for the elementary-school principal's certificate. Other requirements are: (1) possession of a first-class elementary certificate; (2) three years of elementary-school teaching experience; and (3) a health certificate. All electives, whether Education or Academic, must have the adviser's approval. An approved list will be provided by the adviser **upon request.**

[3]**This curriculum does not qualify for a certificate.** All courses to be selected by the candidate subject to the approval of his adviser so as to fulfill the above requirements.

[4]**This curriculum does not qualify for a certificate.** All electives, whether Education or academic, must have the adviser's approval. An approved list will be provided by the adviser **upon request.**

II. Approved Electives in Elementary Education ..... 8 Hr.
Ed. 302. Primary-Kindergarten Education 2
Ed. 304. Corrective Techniques in Reading Instruction 2
Ed. 305. Problems in Reading Instruction 2
Ed. 313. Elementary-school Guidance 2
Ed. 314. Problems in Elementary Education (take early) 2
Ed. 315. Current Practice in Elementary Education 2
Ed. 316. The Elementary-school Subjects 2
Ed. 348. Human Development and Behavior 2
Ed. 366. Teaching the Language Arts 2
Ed. 368. Extra-curricular Activities 2

III. Op. A: Thesis, 6 hr.; Electives, 4 hr. ..... 10 Hr.
OR
Op. B: Problem, 3 hr.; Electives, 7 hr. ..... 10 Hr.
OR
Op. C: Academic, 10 hr. (min.); Electives, 6 hr. ..... 16 Hr.
TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

CURRICULUM FOR HOME-ECONOMICS EDUCATION

Degree: Master of Science

Required graduate courses in Education ..... 10-20 Hr.
Required graduate courses in Home Economics ..... 10-20 Hr.
Required graduate courses in tributary fields ..... 0-10 Hr.
TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

CURRICULUM FOR COUNSELORS[5]

Degree: Master of Arts

Required courses ..... 18 Hr.

Ed. 301. Introduction to Educational Research 2
Ed. 373.* Basic Course in Principles and Practices of Guidance 3
Ed. 374.* Counseling Techniques 2
Ed. 375.* Individual Inventory Techniques 2
Ed. 376.* Occupational Information Techniques 2
Ed. 377.* Special Counseling Problems 3
Ed. 378.* Advanced Studies of Human Adjustment OR Ed. 212. High-School Tests and Measures 2
Ed. 379.* Organization and Administration of Guidance Services 2

Approved Electives ..... 6-12 Hr.
Psychology—222, 224, 225, 229, 233, 234, 236, 350, 351
Social Work—212, 220, 251, 260, 301, 302, 315
Education—284, 212, 258, 357, 360, 372
Sociology—210, 211, 233, 244

Free Electives ..... 0-6 Hr.
TOTAL FOR MASTER'S DEGREE ..... 30-36 Hr.

*Completion of 12 semester hours alone as indicated by starred courses will contribute to endorsement as a teacher-counselor. Other requirements for certification as a teacher-counselor are possession of a first-class certificate and 2 years' teaching experience at the level at which guidance is to be done.

If a Master's Degree has been earned in some other field, certification as a counselor may be procured by having 25 semester hours' credit, 15 in the required list and 10 from the electives.

[5]Completion of this curriculum also fulfills the scholastic requirements in West Virginia for a Counselor's Certificate. Other requirements are (1) a first-class teaching certificate at the level at which the guidance is to be done; (2) 2 years of successful teaching experience at the level at which the guidance is to be done; and (3) cumulative wage-earning experience to a total of no less than 1,400 clock hours of regular paid employment, as certified by the employer or employers, in agriculture, commerce and industry, or 16 weeks in a cooperative work-experience counselor-training program.

CURRICULUM FOR INDUSTRIAL-ARTS TEACHERS[6]

Degree: Master of Arts

Ed. 339. Public-school Organization and Administration 2
Ed. 346. Principles of Supervision 2
Ed. 357. Organization of Programs in Vocational Education 2
Ed. 364. Advanced Methods in Teaching Industrial Arts 2
Ed. 365. Curriculum Construction in Industrial Arts 2
Ed. 373. Basic Course in Principles and Practices of Guidance 3

Electives from this group ....10 Hr.

Ed. 203. Adult Education 2
Ed. 221. Audio-visual Resources for Instruction 2
Ed. 222. Current Practices in Secondary Schools 2
Ed. 238. Industrial Arts Design 2
Ed. 251. Production of Audio-visual Resources 2
Ed. 258. Education for Special Groups 2
Ed. 284. Pupil-personnel Administration 2
Ed. 285. The Junior High School 2
Ed. 319. Special Problems in Teaching General Shop 2
Ed. 322. Organizing Programs of Audio-visual Education 2
Ed. 326. Practice in the Supervision of Elementary-school Instruction 2
Ed. 327. Demonstration and Practice in Supervision of Secondary-school Instruction 2
Ed. 336. The Secondary-school Curriculum 2
Ed. 341. School Buildings and Equipment 2
Ed. 344. Staff-personnel Administration 2
Ed. 360. Problem in Education 3
Ed. 376. Occupational Information Techniques 2
Ed. 385. History of Education in the United States 2
Ed. 395-8. Practicum 3
E.M. 351. Coal Mining 3
Home Ed. 366. Needs of Adolescents 3
Rec. 204. Recreation Hobbies 3

Practical or Skilled ....10 Hr.

Ag. Mech. 252. Advanced Farm Mechanics 2
Ag. Mech. 259. Functional Requirements of Farm Buildings 3
Ag. Mech. 270. Electricity in Agriculture 3
Ch. E. 260. Ceramics 3-6
Ed. 204. Advanced Woodworking 3
Ed. 206. Industrial Experience 2-6
Ed. 207. Maintenance of Equipment in Industrial Arts 2
Ed. 208. Wood Finishing 2
Ed. 240-250. Advanced Crafts 2-10
Ed. 320, 321. Special Topics in Industrial Arts 2-6

Free electives ....0-6 Hr.

TOTAL FOR MASTER'S DEGREE ....30-36 Hr.

CURRICULUM FOR GENERAL SUPERVISORS[7]

Area I. *General Requirements* ....9 Hr.

Ed. 301. Introduction to Educational Research 2
Ed. 339. Public-school Organization and Administration 2
Ed. 346. Principles of Supervision 2
Ed. 348. Human Development and Behavior 2

Area II. *Field Experiences* ....8 Hr.

Ed. 380. Practice in Supervision 2
Ed. 381. Practice in Supervision 2

[6]**This curriculum does not qualify for a certificate.** All electives, whether Education or academic, must have the adviser's approval. An approved list will be provided by the adviser **upon request.**

[7]**Program required for certification of general supervisors in West Virginia.** This curriculum can be pursued only after arrangement with the Director.

Ed. 382. Practice in Supervision 2
Ed. 383. Practice in Supervision 2

Area III. *Requirements in Problems of Teaching* .....8-9 Hr.

Ed. 306. Social Studies in the Elementary School 2
OR
Ed. 367. Teaching the Social Studies in Secondary Schools 3
Ed. 307. Science in the Elementary School 2
Ed. 308. The Teaching of Arithmetic 2
Ed. 366. Teaching the Language Arts 2

Area IV. *Recommended Electives (Non-Education)* .....10-11 Hr.

Art 220
Eng. 220 (Com.), 221 (Com.), 228, 242, 243
Psychology 211, 244
Speech 233, 250, 251, 275
Physical Education 203
Political Science 200, 231

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

CURRICULUM FOR SPECIAL SUPERVISORS[8]

Degree: Master of Arts

I and II: *Same as for General Supervisors* .....17 Hr.
III. *Requirements in special and related fields* .....19 Hr.
TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

CURRICULUM FOR GENERAL SUPERVISORS[9]

Degree: Master of Arts

Area I. *General Requirements* .....9 Hr.

Ed. 301. Introduction to Educational Research 2
Ed. 339. Public-school Organization and Administration 2
Ed. 346. Principles of Supervision 2
Ed. 348. Human Development and Behavior 3

Area II. *Requirements in Problems of Teaching* .....8-9 Hr.

Ed. 306. Social Studies in the Elementary School 2
OR
Ed. 367. Teaching the Social Studies in Secondary Schools 3
Ed. 307. Science in the Elementary School 2
Ed. 308 The Teaching of Arithmetic 2
Ed. 366. Teaching the Language Arts 2

Area III. *Approved Electives in Education* .....8 Hr.

Area IV. *Recommended Electives (Non-Education)* .....10-11 Hr.

Art 222
Eng. 220 (Com.), 221 (Com.), 228, 242, 243
Psychology 205, 218, 222, 224
Sociology 211, 244
Speech 233, 250, 251, 275
Physical Education and Athletics 209, 378
Health Education 203
Political Science 200, 231

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

[8]**Program required for certification of special supervisors in West Virginia.** Courses in special and related fields are selected to meet the needs of the supervisor in training and must be approved by the Director.

[9]**This program does not qualify for a certificate in West Virginia.** This curriculum can be pursued only after arrangement with the Director.

CURRICULUM FOR SPECIAL SUPERVISORS[10]

Degree: Master of Arts

I. *Same as for General Supervisors*	9 Hr.
II. *Approved Electives in Education*	3-8 Hr.
III. *Requirements in Special and Related Fields*	19-24 Hr.
TOTAL FOR MASTER'S DEGREE	30-36 Hr.

CERTIFICATE OF ADVANCED STUDY IN EDUCATION

The purpose of this distinct and terminal sixth-year program is to meet the needs of school and other closely allied personnel who have specific professional problems which they wish to pursue beyond the Master's level. Such persons should consult the Dean of the College of Education.

PREREQUISITES TO ADMISSION TO THE PROGRAM

1. Fulfillment of general requirements for admission to the Graduate School of West Virginia University.
2. A Master's degree in Education with a grade-point average of more than 3.0.
3. A minimum of three years of teaching or closely related educational experience.
4. The applicant must be engaged in, or on official leave from, school or closely allied educational employment.

REQUIREMENTS FOR ADMISSION TO CANDIDACY

1. Evidence through personal letter, personal interview, and examination of acceptable standards of written and oral communication, general proficiency, and good health.

2. Satisfactory completion in residence at West Virginia University of at least six semester hours of approved course work beyond the conferring of the Master's degree.

GRADUATE COMMITTEE

Upon admission to candidacy the matriculant will be assigned a Graduate Committee of three, of which one may be from outside of the faculty of the College of Education, and the chairman of which will serve as Graduate Adviser. The Committee must approve and will have general oversight of the candidate's program, direct his research, administer his final examinations, and, when he has satisfied all requirements, recommend him to the Dean of the Graduate School for the certificate.

REQUIREMENTS FOR COMPLETION

The Program. A minimum of 30 approved semester hours in residence earned after the conferring of the Master's regree, consisting of (a) 18-24 semester hours of course work in Education and intimately related areas, of which a maximum of six semester hours earned in residence at another recognized graduate institution may, if of suitable character, be allowed; and (b) 6-12 semester hours of research.

Special Requirements. Competence in techniques of statistical research; evidence of a functioning command of appropriate methods of investigation; and mastery of acceptable practices of manuscript preparation.

Research. The candidate must submit a report of a research project, approved by and pursued under the direction of his advisory committee, on a problem in the area of his major professional interest. The report shall show familiarity with previous knowledge of the general problem and with concurrent attacks upon it; embody a clear definition of the particular approach of the present investigation; employ valid methods of research; demonstrate the ability to create and evaluate new knowledge; present and interpret unequivocally the results of the candidate's individual investigation; and disclose his ability to apply his contribution to the solution of his professional problem.

Residence. Both the course and research requirements are to be satisfied through residence credit. Although portions of the research project may be prosecuted in the field, they will be closely supervised through periodic field and campus conferences between the candidate and his committee.

[10]**This curriculum does not qualify for a certificate in West Virginia.** Courses in special and related fields are selected to meet the needs of the student and must be approved by the Director.

Final Examination (s). If the candidate's research report is accepted and he has satisfied all other requirements, he will be admitted to final oral examination by his graduate committee which may also require a written examination. The examination (s) will probe the candidate's grasp of his field of specialization and cognate fields, and his ability to focus the results of his research upon the solution of his professional problem.

Time Limitation. All requirements shall, without exception, be completed within the seven calendar years immediately preceding the awarding of the Certificate.

THE DEGREE OF DOCTOR OF EDUCATION

Admission to the Graduate School and enrollment in graduate courses do not of themselves imply acceptance of the applicant for a Doctor of Education Degree. The sequence of prerequisites to admission, prerequisites to candidacy, and requirements for the degree are as follows:

Prerequisites to Admission

Applicants expressing a desire to pursue a program leading to the Doctor of Education Degree are required to satisfy a College of Education faculty committee on prerequisites in the following ways:

A. Furnish evidence of significant and appropriate teaching experience.

B. Demonstrate the ability to read comprehendingly and to use creditable oral and written English.

C. Demonstrate the ability to use the basic statistical processes.

D. Furnish evidence of wide reading in general and professional fields.

E. Show by means of oral and written tests a preparedness to undertake an organized program of advanced graduate study and research.

F. In addition to the foregoing, the Committee on Prerequisites may require a trial period of resident study.

Doctoral Committee

When an applicant has received the permission of the Graduate School to enter upon an organized program of advanced graduate study and research he will be assigned an adviser by the Dean of the Graduate School. The Dean of the Graduate School and the adviser will jointly select a doctoral committee consisting of not fewer than five members of whom at least one shall be from a field other than Education. The adviser shall serve as chairman of the doctoral committee and this committee shall have charge and direction of the applicant's program. This program, prepared by the adviser and the applicant, must be approved by the doctoral committee and by the Dean of the Graduate School before the applicant is eligible to stand for the qualifying examination.

Qualifying Examinations

At a time to be determined by the doctoral committee after the applicant has spent at least one semester, or three summer terms of six weeks each, in full-time graduate work in on-campus residence beyond the Master's Degree or its quivalent, he will be admitted to written and oral comprehensive preliminary or qualifying examinations, conducted by the doctoral committee, in the areas of general professional background, specialization, and cognates. The applicant must (a) evidence a grasp of the important phases and problems of the field of study in which he proposes to major and their application to other fields of human knowledge and accomplishment; (b) demonstrate the ability to employ rationally the appropriate instruments of research; and (c) present a written tentative outline of a proposed research project.

The written qualifying examination precedes the oral that should follow within a reasonable time the successful completion of the written. If the committee is not satisfied with the applicant's showing, it will make specific recommendations for additional work in preparation for a second trial that may be undertaken not earlier than six months nor later than twelve months after the first trial. The outcome of the second attempt will be considered final.

NOTE: It is the responsibility of all applicants for admission to the Graduate School and all candidates for graduate degrees, certificates, and other such recognitions to conform to the General Regulations as published in the latest **Announcements** of the Graduate School.

When the applicant has passed the qualifying examinations he will formally be promoted to candidacy for the Doctor of Education Degree. Admission to candidacy must precede the final examination by at least one academic year in time and 12 semester hours in credit. A maximum of 30 semester hours of graduate work pursued in fulfillment of the requirements for the Master's Degree, if of suitable character and quality, may be credited toward the doctorate.

Requirements for Completion

Curriculum. The degree of Doctor of Education is not achieved by the mere accumulation of course credits nor the completion of a definite residence requirement. The exact amount and nature of course work to be undertaken by a candidate will be determined in the light of his previous preparation and the demands of his chosen field of application. The aggregate of courses of graduate study shall, however, be not fewer than 70 semester hours, exclusive of the dissertation. Not more than 12 of the 70 hours may be earned in extension and/or practicum or field work. The program of course work shall include a minimum of 42 semester hours in Education, at least 30 of which shall be on the "300" level, and a minimum of 24 semester hours in cognate courses, of which at least 12 shall be on the "300" level. These courses shall be so ordered and distributed as to promote broad and systematic knowledge and the ability to prosecute independent research.

Candidates having an earlier graduate degree or its equivalent from West Virginia University will be required to complete a prescribed minimum of resident graduate work in one or more other institutions.

Residence. In general, requirements for the Doctor of Education Degree contemplate three years of full-time graduate work beyond the Bachelor's Degree, including a minimum of two semesters in residence in full-time graduate study in West Virginia University beyond the Master's Degree or its equivalent.

Special Requirements. Competence in the advanced techniques of statistical research; evidence of a functioning command of appropriate methods of educational investigation; and mastery of the rules of manuscript preparation.

Dissertation. The candidate must submit a dissertation pursued under the direction of his doctoral committee on a problem in the field of his major interest. The dissertation must show familiarity with previous knowledge of the general problem; embody a clear definition of the particular problem pursued; employ valid methods of attack; demonstrate the ability to create and evaluate new knowledge; present and interpret unequivocally the results of the candidate's individual investigation; and disclose his ability to apply his contribution to the solution of educational problems.

Final Examination. If the candidate's dissertation is approved and he has fulfilled all other requirements, he will be admitted to final oral examination before his doctoral committee. At the option of his committee a written examination also may be required. The final examination or examinations shall be concerned with the dissertation, its contribution to knowledge, and the candidate's grasp of his field of specialization and its relation to other fields. No candidate may proceed to his final examination until he has fulfilled residence requirements for the degree and until he has completed at least 12 semester hours of graduate study subsequent to his admission to candidacy.

Time Limitation. Requirements for the Doctor of Education Degree must be completed within seven years of admission to candidacy.

COURSES OF INSTRUCTION

No courses in Education except Ed. 102, 103, 104, 105 and 106 are open to sophomores. The following courses are required of teachers for recommendation for a first-class high school certificate: Ed. 105, 106, 114, 120, 124, 150-170 and enough additional hours chosen from the following approved electives to meet the minimum requirement of 20 hours in Education: Ed. 109, 136, 150-170 in a second teaching field, 197, 203, 212, 221, 222, 231, 233, 259, 262, or 266, 276 or 277, 284, 285, 291.

The following courses are required of teachers for recommendation for a first-class elementary certificate: Ed. 105, 106, 141, 142, 143, 144, 145, and 146.

Undergraduate Division

101. Introduction to Vocational Teaching. II. 2 hr. A survey of the field of vocational education with emphasis on orientation as the foundation for occupational preparation. Mr. Allen

102. Hand Woodworking (I.A.). I. 3 hr. Basic course for industrial arts teachers. Emphasis on design and construction of small projects; development of hand tool skills; a study of tools, materials, and processes; basic finishing information. Open to lower-division students. Mr. Brennan

103. Machine Woodworking (I.A.). II. 3 hr. PR: Ed. 102. Use of common pieces of power woodworking equipment and safety factors involved in their use in school shops. Open to lower-division students. Mr. Brennan

104. Basic Metalwork (I.A.). I. 2 hr. Practical work in layout and construction in bench work and wrought iron. Open to lower-division students. Staff

*105. Educational Psychology—Human Growth and Development. I, II, S. 3 hr. Open to sophomores or above. Emphasis upon competencies on the part of prospective teachers in understanding and applying principles involved in the growth and develoment of children and youth.
Mr. Fish, Mr. Kennedy, and Mr. Smotherman

106. Educational Psychology—The School Program and Pupil Development. I, II, S. 3 hr. PR: Ed. 105. Continuation of Ed. 105 with special attention to the nature of the school program as it affects the growth and development of pupils. Open to sophomores or above.
Mr. Fish, Mr. Kennedy, Mr. Smotherman, and Mr. Wheat

107. General Shop (I.A.). I. 3 hr. Basic course in practices and techniques involved in the areas of printing, crafts, wood and metal work, forging, and foundry. Emphasis on the organization of a general shop. Mr. Ault

108. Advanced General Shop (I.A.). II. 3 hr. Emphasis on planning, development of projects, and individualized instruction. Additional areas will include drawing, electricity, and ceramics. Mr. Ault

109. Secondary Education. I, II, S. 3 hr. Introduction to the problems of the secondary-school teacher. Mr. Good

110. Maintenance and Construction of Industrial Arts Equipment (I.A.). I, II, S. 2 hr. PR: Ed. 102, 104, and consent of instructor. Solution of problems arising from use of equipment found in school shops, development and construction of functional shop equipment. Mr. Ault and Mr. Brennan

114. Educational Psychology—Adolescent Adjustment. I, II, S. 3 hr. PR: Ed. 105 and 106. Types of learning activities featured in the program of the secondary school and the forms of personal and social adjustment effected, with special consideration given to methods and techniques applicable to the evaluation of pupil progress. Mr. Good

115. Student Teaching in Elementary-school Music. I, II. 2 hr. Observation and practice of teaching music to pupils in grades one through six, between the hours of nine and eleven daily. Open to seniors who have completed 27 semester hours in Music and 8 semester hours in Education with a grade-point average of 2.0 ("C") in each and a general grade-point average of 2.0 ("C").
Mr. Brown and Mrs. Glasscock

120. Principles of Teaching in Secondary Schools. I, II, S. 2 hr. PR: Open only to those who qualify for the student teaching block. Mr. Miller

*Ed. 105 is prerequisite to all other courses in Education.

124. Student Teaching. I, II, S. 4 hr. PR: Ed. 105, 106, and one elective in Education. (Ed. 114 is not an elective). This course is open only to seniors and graduate students regularly enrolled in the University meeting the following requirements:

1. Completion of approximately 75 per cent of the hours required in each of two teaching fields and completion of Ed. 105, 106, and one approved elective course in Education, with a minimum general grade-point average of 2.0 ("C") and a minimum grade-point average of 2.0 ("C") in each teaching field and in Education.

2. An applicant for student teaching must submit positive evidence that he (or she) meets the requirements of physical conditions and emotional stability necessary for the performance of the duties of a teacher in the public schools. Such evidence must come from the University Health Service on a form used by the College of Education.

3. This course must be taken concurrently with Ed. 120 and the appropriate course of Ed. 150-170 unless exceptions have previously been made with the Director of Secondary Student Teaching. A period of 3 hours daily must be reserved for this and simultaneous courses for purposes of observation, discussion, and planning.

4. All students must reserve Monday, 7 to 9 P.M. biweekly in each calendar month for teachers' meetings.

5. Because two-thirds of the program of the University High School is in the forenoon, two-thirds of the applicants must schedule this course in the morning, reserving three hours daily without interruption. Admission is by application made early in the preceding semester to the Director of Secondary Student Teaching.

6. The adviser is responsible for furnishing a check of the student's record to determine eligibility,

Mr. Miller, Mr. Butler, and U.H.S. Staff

125. Supplementary Student Teaching. I, II, S. 2 hr. PR: Permission of the director of student teaching. Must accompany Ed. 124 and can be taken only by persons who give valid reasons for earning six semester hours of student teaching. A period of four consecutive hours daily (8-12 or 10-3) must be reserved for Education 124 and 125 when taken simultaneously. Ed. 125 cannot count as a part of the 20 semester hours of Education required for West Virginia certification. Mr. Miller, Mr. Butler, and U.H.S. Staff

130. Materials and Methods in Elementary-School Music. I, II. 2 hr. (To be carried concurrently with Education 115.) Mr. Brown and Mrs. Glasscock

136. High-School Program of Studies. I, II. 3 hr. Principles governing the selection of educative content for secondary schools, with emphasis on possibilities within various areas. Mr. Hudelson

141. Psychology and Management of the Elementary School. I, II, S. 3 hr. PR: Ed. 105, 106, and enrollment in the elementary undergraduate program of the College of Education. Types of learning activities of the elementary school, forms of personal and social adjustment, evaluation of progress of pupils, organization of the daily program, and the management of classroom activities. Mr. Fish, Mr. Kennedy, and Mr. Wheat

142. Language Arts in the Elementary School. I, II, S. 3 hr. PR: 105, 106, and enrollment in the elementary undergraduate program of the College of Education. Modern practices in teaching the language arts. Emphasis on methods and materials in teaching reading, handwriting, and spelling in their relation to the total school program. Mr. Fish and Mr. Kennedy

143. Arithmetic in the Elementary School. I, II, S. 2 hr. PR: Ed. 105, 106, and enrollment in the elementary undergraduate program of the College of Education. The methods and materials of learning and instruction in arithmetic. Mr. Wheat

144. Social Studies in the Elementary School. I, II, S. 2 hr. PR: Ed. 105, 106, and enrollment in the elementary undergraduate program of the College of Education. A study of modern practices in the teaching of social studies. Empha-

sis on the principles and techniques underlying the community-oriented social studies program. Instructional units in such areas as the community, social processes, foreign culture and geography, and history are developed. Mr. Fish and Mr. Kennedy

145. Science in the Elementary School. I, II, S. 2 hr. PR: Ed. 105, 106, and enrollment in the elementary undergraduate program of the College of Education. A study of modern practices in the teaching of science. Emphasis on the principles and techniques underlying the community-oriented science program. Students are guided in developing instructional units in such areas as the earth and the universe, conservation, health, living things, and physical and chemical phenomena. Mr. Fish and Mr. Kennedy

146. Student Teaching in the Elementary School. I, II, S. 6 hr. PR: Ed. 142, 143, 144, and enrollment in the elementary undergraduate program of the College of Education; a minimum general grade point average of "C" (1) in non-Education courses, and (2) in Education courses; senior standing. Students enrolling for this course must plan a schedule so that one-half of the day (9:00-12:00 or 12:00-3:00) is free. An applicant for student teaching must submit positive evidence that he (or she) meets the requirements of physical conditions and emotional stability necessary for the performance of the duties of a teacher in the public schools. Such evidence shall be provided by the University Health Service on a form used by the College of Education. Mr. Kennedy

147. Student Teaching in the Elementary School. I, II, S. 3 hr. PR: Enrollment in the elementary undergraduate program of the College of Education and consent of the instructor. A special course for transfer students who have completed three or more hours of student teaching in other institutions or for those who are up-grading certificates. Mr. Kennedy

148. Student Teaching in the Elementary School. I, II, S. 3 hr. PR: Permission from the Director of Elementary Student Teaching. A continuation of Education 147 for students who need more than three hours in directed teaching for graduation, recommendation, and certification. Mr. Kennedy

150-170. Materials and Methods of High-school Teaching. I, II, S. 2 hr. PR: Consent of instructor. Special methods in the various secondary-school teaching fields. For West Virginia certification these courses are an integral part of Ed. 124. May also be chosen as a two-hour elective by students who are registered for student teaching in other fields.

The various sections of this course, with their instructors, follow:

150.	Biology. 2 hr.	Mr. Hathaway
151.	Science. 2 hr.	Mr. Federer
152.	Physical Education. 2 hr.	Mr. Eicher, Mr. Fizer, and Mrs. Hayhurst
153.	French. 2 hr.	Miss Brochick
154.	Speech. 2 hr.	Staff
155.	Library Science. 2 hr.	Miss Robinson
156.	Spanish. 2 hr.	Staff
157.	Latin. 2 hr.	Mrs. Dorsey
160.	Agriculture. 3 hr.	Mr. Butler
161.	English. 2 hr.	Miss Woofter
163.	Home Economics. 2 hr.	Miss Cook and Mrs. Roberts
164.	Industrial Arts. 2 hr.	Mr. Ault
165.	Mathematics. 2 hr.	Miss Wilt
166.	Physical Science. 2 hr.	Mr. Federer

167. Social Science. 2 hr. Mr. Talerico

168. Art. 2 hr. Mr. Madia

169. Music. 2 hr. Mr. C. Brown

170. Commerce. 2 hr. Mr. Cudzilo

179. Safety Education—Safe Driving. S. 1 hr. Open to selected high-school teachers. Mr. Eicher

180. Safety Education—Safe Driving. S. 1 hr. Open to selected high-school teachers. Continuation of Ed. 179. Mr. Eicher

194. Organization of Industrial Arts. II. 2 hr. Comparative analysis of the objectives of general and industrial arts education; industrial arts content; study of the problems involved in organizing and administering industrial arts content; and in organizing and administering industrial arts courses in unit and general shops. Mr. Ault and Mr. Brennan

197. Survey of Vocational Education. I. 2 hr. The relationship to the public-school program and to each other of vocational agriculture, vocational home economics, trade and industrial education, commercial education, distributive education, rehabilitation, and re-education. Mr. Allen

*203. Organization and Administration of Adult Education. II. 2 hr. Mr. Allen

204. Advanced Woodworking, Construction, and Finishing (I.A.). II, S. 3 hr. PR: Ed. 102, 103, or equivalent. Selection of advanced projects, analysis of construction planning and finishing, application of machine tools. Mr. Brennan

206. Industrial Experience (I.A.). I. II, S. 2-6 hr. Open only to students qualifying to teach industrial arts or become counselors. Evaluation of educative outcome of personal employment in industry as determined by duration, experience, records, study on job, and final examination. Counts as extension credit. Mr. Allen and Mr. Brennan

208. Wood Finishing (I.A.). I, S. 2 hr. PR: Ed. 103 and Ed. 204. Practice and theory in the art of sanding, scraping, filling, dyeing, staining, waxing, and other natural and synthetic treatments to the surface of wooden articles constructed in the industrial arts shop. Mr. Brennan

212. High-School Tests and Measures. I, II. 3 hr. Uses and techniques of educational measurement in secondary-school teaching. Mr. Hudelson

221. Audio-Visual Resources for Instruction. I, II, S. 2 hr. Multisensory techniques in using wide varieties of materials and resources in teaching. One laboratory period per week. Mr. Allen

222. Current Practices in Secondary Education. I, II, S. 2 hr. Mr. Schultz

224. Advanced Student Teaching (Secondary). I, II, S. 2 hr. PR: Education 124 or its equivalent and permission of the Director of Secondary Student Teaching. Emphasizes types of experiences not generally included in beginning student teaching. Mr. Miller and U.H.S. Staff

226. Advanced Student Teaching (Elementary). I, II, S. 3 hr. PR: 3 hours of student teaching or its equivalent and permission from the Director of Elementary Student Teaching. Emphasizes types of experiences not generally included in beginning student teaching. Mr. Kennedy

231. Philosophy of Education. I, S. 2 hr. PR: Five hours of Education courses and senior standing. Evaluation of educational theories and practices in terms of the several judgments of ultimate worth set up by man in his endeavor to understand life's real meaning. Mr. Baldwin

*To receive graduate credit for any courses numbered 200-299, the student must have had at least 17 hours in undergraduate Education.

233. Educational Sociology. II, S. 3 hr. PR: Five hours credit in Education and senior standing. Impacts of institutions of society upon school, and school's counter-impact upon social institutions and agencies. Mr. Good

238. Industrial Arts Design (I.A.). I, S. 2 hr. PR: Consent of instructor. Fundamentals of design, characteristics of period and modern furniture, and construction details. Mr. Brennan

Education 240-250. These courses are designed to prepare versatile teachers of industrial arts and to meet state certification requirements. The abbreviated introduction to specific crafts through these courses is intended to provide broad rather than specialized experience and to prepare the teacher to teach the fundamentals of crafts rather than to attain vocational competence. Prospective teachers should elect from these courses those which will supplement their previous training in organizing and directing the industrial arts program.

240. Metal Working (I.A.). I, S. 2 hr. PR: Ed. 104. Design and construction of projects using sheet, bar, and wire. Introduction to jewelry. Staff

241. Jewelry (I.A.). II, S. 2 hr. PR: Ed. 104. Design and construction of projects in costume jewelry made from gold-filled and silver wire and sheets; installing jewels; gold and silver soldering; tool design and tool making for special operations. Staff

242. Upholstering (I.A.). S. 2 hr. PR: Ed. 103. Original and renewal installation of selected materials for springing, stuffing, and covering furniture; incidental reinforcement and repairs. Each student will need to purchase a simple kit of tools. Staff

243. Ceramics (I.A.). II, S. 2 hr. Manipulation of ceramic materials. Projects are constructed involving slab, coil and potter's wheel operations, slip casting and ceramic production processes. Glazing and firing of ceramic wares. Mr. Brennan

244. Leather Crafts (I.A.). I, S. 2 hr. Selection of materials; design and construction of projects in leather, tooling, carving, lacing, staining, etc. Mr. Bennan

245. Plastics (I.A.). II, S. 2 hr. Manipulation of selected plastics in block, sheet, tube and rod. Forming to shape, fabrication, and carving. Mr. Brennan

246. Graphic Arts (I.A.). II, S. 2 hr. A study of the various media of reproduction. Attention is given to linoleum block, silk screen, letter press operations, hand composition, proof reading, platen press operations, and basic book binding. Mr. Ault and Mr. Brennan

247. Auto Mechanics (I.A.). S. 2 hr. Practice and theory in operation and maintenance of internal combustion engines. Staff

248. Electricity (I.A.). II, S. 2 hr. Basic electrical theory and practice, including wiring circuits, splices, motors, generators, etc., suitable for pupils in high school. Staff

249. Sheet Metal (I.A.). S, II. 2 hr. Designing, making patterns, and construction of sheet metal objects useful about the modern home. Cutting, bending, forming, spinning, soldering, and similar operations. Mr. Ault

250. Industrial Arts for Elementary Schools (I.A.). II, S. 2 hr. Particularly designed for elementary teachers. Planning units around activity areas and developing of manipulative operations to supplement these units. Work includes simple wood and metal operations, plastics, and crafts suitable for the elementary pupil. Mr. Brennan

251. Production of Audio-visual Resources. S. 2 hr. PR: Ed. 221. Practical participation in planning and producing audio-visual media for use in teaching, for supporting the school's public-relations program, and in educational research. Mr. Allen

258. Education for Special Groups. I, II, S. 2 hr. A study of the techniques and organization of instruction of adults and teen-age youth not in attendance at ordinary day-school classes. Mr. Allen

259. The Music Education Program. II, S. 2 hr. PR or parallel: Ed. 124 or consent of instructor. Organization and administration of the complete music education program from grades one through twelve. Mr. Brown

262. Vocational Home Economics in Secondary Schools. I, II. 3 hr. PR or parallel: Ed. 120, 124, and 163; home economics, 25 hours. Primarily for seniors and teachers of home economics. Miss Noer

266. Adult Education in Homemaking. I, II. 2 hr. Current trends and present activities in the field of adult education. Organization of adult classes, development of unit outlines; consideration of teaching methods; illustrative material and bibliography for use in adult classes. Staff

270. Special Problems and Workshops. I, II. 1-4 hr. PR: 14 hr. Education. To take care of credits for special workshops and short intensive unit courses on problems of Education dealing with measurement, guidance, administration, methods, supervision, and the like. Staff

275. Developing the Core Curriculum. S. 2 hr. PR: May be taken with or following student teaching. Staff

276. Teaching Young and Adult Farmer Classes. II, S. 2 hr. PR: Ed. 105 and 106. Participation in conducting young and adult farmer classes and school-community food preservation center; organization, course of study, methods of teaching and supervision, and young farmer association. Mr. Butler

277. Organizing and Directing Supervised Farming Programs. II, S. 2 hr. PR: Ed. 160 or consent. Planning programs of supervised farming, supervising and evaluating such programs for all-day students, young farmers, and adult farmers. Mr. Butler

283. History of Education in West Virginia. II, S. 2 hr. A study of the growth of elemetary, secondary, and higher education in the state with special emphasis given to movements and influences which brought about significant changes in organizational, financial, and instructional policies and practices. Staff

284. Pupil-personnel Administration. I, II, S. 2 hr. PR: Ed. 105 and 106. Pupil accounting, guidance, extra-curricular activities, and control. Open only to seniors and graduates. Mr. Schultz

285. The Junior High School. I, II. 2 hr. PR: Ed. 105 and 106 and consent of instructor. Open only to seniors and graduates. Mr. Hudelson

291. Exploratory Reading. S. 2 hr. PR: Consent of instructor. For those who feel need for wider acquaintance with books. Staff

Graduate Division

301. Introduction to Educational Research. I, II, S. 2 hr. Required of all candidates for the administrative and supervisory programs. Appreciation, techniques, interpretation, and reporting of research. One requirement of the course is to outline an actual research problem. Mr Good

302. Primary-Kindergarten Education. I, II, S. PR: Consent of instructor. Application of the principles of psychology to early childhood education. Mr. Kennedy

304. Corrective Techniques in Reading Instruction. I, II, S. 2 hr. PR: Ed. 309 or consent of instructor. Methods and materials to help pupils with reading difficulties. Mr. Kennedy and Mr. Fish

305. Problems in Reading Instruction. I, II, S. 2 hr. PR: Ed. 309 and Ed. 304. Individual and group research on selected problems in the teaching of reading. Mr. Kennedy and Mr. Fish

306. Social Studies in the Elementary School. I, II, S. 2 hr. PR: 10 hours undergraduate credit in elementary education or consent of instructor. Survey course in the teaching of social studies. Mr. Smotherman

307. Science in the Elementary School. II, S. 2 hr. PR: 10 hours of undergraduate credit in elementary education. Materials and methods of science with special consideration of human health and safety. Mr. Fish

308. The Teaching of Arithmetic. I, S. 2 hr. PR: 10 hours of undergraduate credit in elementary education or consent of instructor. Survey course in the teaching of reading. Mr. Kennedy

312. Evaluation of Pupil Progress in the Elementary School. I, II, S. 2 hr. PR: Consent of instructor. Practical techniques for evaluating pupil progress and teaching effectiveness. Mr. Fish

313. Elementary-school Guidance. I, II, S. 2 hr. PR: Consent of instructor. Practical application of the principles of guidance to the elementary school. Mr. Smotherman

314. Problems in Elementary Education. I, II, S. 2 hr. PR: Consent of instructor. Intensive study of specific problems in elementary education. Staff

315. Current Practices in Elementary Education. I, II, S. 2 hr. PR: Consent of instructor. Critical analysis of modern techniques and practices in the elementary school. Staff

316. The Elementary-school Subjects. I, II, S. 2 hr. PR: Consent of instructor. Inter-relationship among subjects in an intergrated school program. Mr. Kennedy

318. Planning Programs and Courses for Vocational Agriculture Departments. I, S. 2 hr. PR: Ed. 124. Gathering data, studying the farming problems of all-day students, young farmers, and adult farmers, and planning the total program for the department. Mr. Butler

320, 321. Special Topics in Industrial Arts. I, II, S. 2-3 hr. each. PR: Consent of instructor. For graduate students in industrial arts. Special projects of improvement in phases needing special attention. Mr. Allen, Mr. Ault, and Mr. Brennan

322. Organizing Programs of Audio-visual Instruction. S. 2 hr. PR: Ed. 221. An advanced course dealing with problems of planning extensive programs for using exhibits, slides, graphics, films, radio, television, etc., for instructional purposes. Mr. Allen

326. Practice in Supervision of Elementary-school Instruction.. S. 2 hr. PR: 6 graduate hours of elementary education or consent of instructor. Observing and practicing major activities of supervisor in work with pupils and teachers. To be taken late in student's candidacy. Mr. Davis and Mr. Smotherman

327. Demonstration and Practice in the Supervision of Secondary-school Instruction. II, S. 2 hr. PR: Consent of instructor. Opportunity to observe approved processes in classroom supervision and to practice under guidance the art of improving classroom instruction. To be taken late in student's candidacy. Mr. Miller

335. The Elementary-school Curriculum. I, II, S. 2 hr. PR: 10 hours of undergraduate credit in elementary education or consent of instructor. Organization of content and materials of instruction of subjects through the grades. Mr. Fish

336. The Secondary-school Curriculum. I, II, S. 2 hr. High-school teaching experience or consent of instructor. Principles of and practice in curriculum construction for modern high schools. Mr. Schultz

339. Public-school Organization and Administration. I, S. 2 hr. PR: 20 hours of Education and consent of instructor. An orientation course for present and prospective school administrators, with emphasis upon the problems which grow out of the county unit. Required as a basic course of all who specialize in educational administration. Mr. Baldwin

340. Public-school Finance. S. 2 hr. PR or Conc.: Ed. 339 and consent of instructor. Sources of school support; taxation; efficient management of school money locally by improved budgetary practices and statewide by more adequate apportionment plans. To be taken late in student's candidacy. Mr. Baldwin

341. School Buildings and Equipment. I, S. 2 hr. PR or Conc.: Ed. 339 and consent of instructor. Philosophy, planning, and management of school plant as appropriate physical environment — the home of pupils for efficient learning. Mr. Baldwin

343. School Surveys. 2 hr. PR or Conc.: Ed. 339 and consent of instructor. Development of the educational survey as an instrument for improving educational procedures. Mr. Baldwin

344. Staff-Personnel Administration. 2 hr. PR or Conc.: Ed. 339 and consent of instructor. Selection, induction, direction, evaluation, improvement, and promotion of members of the supervisory, instructional, research, clerical, and maintenance staffs. Mr. Baldwin

346. Principles of Supervision. I,S. 2 hr. Basic, general principles of elementary-school, junior high-school, and senior high-school supervision. Miss Scott

348. Human Development and Behavior. S. 3 hr. A study of the inter-relationship of physical and environmental factors as they affect the behavior of children and youth. Miss Scott

353. The Secondary-school Principal. II, S, 2 hr. PR: Ed. 339 and high school teaching experience, or consent of instructor. Open only to graduate students in Education late in their candidacy. Practicum in secondary-school administration. Mr. Schultz

356. The Elementary-school Principal. S. 2 hr. PR: 6 graduate hours of elementary education or consent of instructor. Work of principal in management and supervision of school. To be taken late in candidacy. Mr. Feaster and Mr. Smotherman

357. Organization and Administration of Vocational Education. S. 2 hr. PR: Ed. 339. Specific consideration of the development of practical training in agriculture, home economics, industry, and commerce with particular reference to their place in the public school system. Mr. Allen

360. Problem in Education. I, II, S. 1-3 hr. Total minimum, 3 hr. Research for Master's Degree in Education, option B. Staff

361. Thesis in Education. I, II, S. 1-6 hr. Total minimum, 4 hr. Research for Master's Degree in Education, option A. Staff

362. Project in Education. I, II, S. 1-12 hr. Total minimum, 6 hr. Research for the program leading to the Certificate of Advanced Study in Education. Staff

363. Dissertation. I, II, S. Research for the Doctor of Education Degree. Staff

364. Advanced Methods in Teaching Industrial Arts. II, S. 2 hr. PR: Ed. 194. Industrial arts development; effective use of instructional materials; methods of evaluating industrial arts subjects. Mr. Ault and Mr. Brennan

365. Curriculum Construction in Industrial Arts. S. 3 hr. PR: Consent of instructor. Techniques used in building a curriculum in industrial arts. Mr. Ault and Mr. Brennan

366. Teaching the Language Arts. I, II, S. 2 hr. PR: Consent of instructor. Advanced study of the interrelationships of the language arts. Mr. Kennedy and Miss Scott

367. Teaching the Social Studies in Secondary Schools. 1, II, S. 3 hr. PR: Consent of instructor. Survey course in teaching the social studies. Mr. Cook

368. Extra-curricular Activities. I, II, S. 2 hr. PR: Consent of instructor. Organization and administration of school-community activities. Mr. Schultz

372. Statistical Methods in Education. I, II, S. 2 hr. PR: 20 hours of Education. Mr. Hudelson

373. Basic Course in Principles and Practices of Guidance. II, S. 3 hr. An overview of a total guidance program. Mr. Jarecke

374. Counseling Techniques. I, II, S. 2 hr. PR: Ed. 373, 375, 376. Study of and practice in techniques of counseling. Mr. Jarecke

375. Individual Inventory Techniques. II,S. 2 hr. PR: Ed. 373. Comprehensive study of all objective measures used in schools; techniques of administration, interpreting and recording results. Mr. Jarecke

376. Occupational Information Techniques. II, S. 2 hr. PR: Ed. 373. Methods of gathering and disseminating occupational and educational information. Mr. Jarecke

377. Special Counseling Problems. I, II, S. 3 hr. PR: Ed. 373, 374, 375, 376. Work with actual problem cases according to clinical procedures. Cases to be pursued to satisfactory conclusion. Mr. Jarecke

378. Advanced Studies of Human Adjustment. II, S. 2 hr. PR: Ed. 373, 374, 375, 376. Analytical consideration of identification, causes and development of psychological maladjustments, further study of developments in counseling and background in advanced studies in guidance. Mr. Jarecke

379. Organization and Administration of Guidance Services. II, S. 2 hr. PR: Ed. 373, 374, 375, 376. Operative framework of guidance programs in terms of personnel, functions, relationships, physical facilities, institutional integration, finance standards, laws and regulations. Mr. Jarecke

380, 381, 382, 383. Practice in Supervision. I, II. Credit 2 hr. each. PR: Assignment to actual full-time work in supervision in a school system, previous certification, and consent of instructor. Each course a continuation of preceding. To complete the entire 8 hours not less than two full years of field experience under control of Director of Supervisor Training will be accepted. Miss Scott

385. History of Education in the United States. I, II, S. 2 hr. Origins, development, and significance of educational movements. Staff

395, 396, 397, 398. Practicum. Special individual and group projects. I, II, S. 1-4 hr. per semester or term—aggregating not more than 12 hr. PR: 8 graduate hours in Education. Enrollment with permission of adviser and instructor in consultation. To provide appropriate credits for special workshops, prolonged systematic conferences on problems and projects in Education. Credits in these projects cannot be substituted for required courses and must be done in residence.

Agricultural Education. Mr. Butler
Audio-visual Education. Mr. Allen
Educational Measurement and Evaluation. Mr. Hudelson and Mr. Jarecke
Educational Psychology. Mr. Fish, Mr. Jarecke, Mr. Kennedy, and Mr. Smotherman
Educational Sociology. Mr. Baldwin and Mr. Good
Elementary Education. Mr. Feaster, Mr. Fish, Mr. Kennedy, Mr. Smotherman, and Mr. Wheat
Guidance. Mr. Jarecke
Home Economics Education. Miss Brown and Miss Noer
Human Growth and Development. Mr. Fish, Mr. Kennedy, Miss Scott and Mr. Smotherman
Industrial Arts Education. Mr. Allen, Mr. Brennan, and Mr. Ault
Music Education. Mr. Brown
Philosophy of Education. Mr. Baldwin
School Administration. Mr. Baldwin
Secondary Education. Mr. Good, Mr. Hudelson, and Mr. Schultz
Special and Adult Education. Mr. Allen
Supervision. Mr. Miller, Miss Scott, and Mr. Schultz
Teaching of English. Mr. Hudelson
Teaching of Mathematics. Mr. Feaster, Mr. Fish, and Mr. Wheat
Teaching of Science. Mr. Fish
Teaching of Social Sciences. Mr. Good and Mr. Smotherman
Vocational Education. Mr. Allen, Miss Brown, Miss Noer, and Mr. Butler
Rural Education: Mr. Allen, Mr. Kennedy, and Mr. Schultz

399. Techniques of Educational Research. II. 2 hr. PR: Ed. 372 and consent of instructor. Application of research techniques to problems of modern education; analysis and implications of results. Mr. Hudelson

The College of Engineering and Mechanic Arts; The School of Mines

GENERAL INFORMATION

THE COLLEGE OF ENGINEERING AND MECHANIC ARTS AND THE SCHOOL OF MINES

For the purpose of administration and instruction, the College of Engineering and Mechanic Arts is organized into the following departments:

Aeronautical Engineering (A. E.)
Agricultural Engineering (Ag. E.)
Chemical Engineering (Ch. E.)
Civil Engineering (C. E.)
Electrical Engineering (E. E.)
Mechanical Engineering (M. E.)
Mechanics (M.)

All the mining and industrial extension work of the University is organized under the School of Mines. For the purpose of administration the school is divided into the following divisions:

Mining and Industrial Extension
Mining Engineering (E. M.)

Buildings and Equipment

Chemical engineering and mining engineering are housed in the Mineral Industries Building. Agricultural engineering is in the Forestry Building. Aeronautical, civil, electrical, and mechanical engineering are housed in Mechanical Hall. This building also contains the machine and welding shops, the steam-power laboratories and boiler room, the internal combustion engine laboratory, the materials testing laboratory, the electrical engineering laboratory, the hydraulic laboratory, the sanitary laboratory, and some of the general drafting rooms. Mechanical Hall also houses the offices and laboratories of the Materials Engineer of the State Road Commission. Mechanics and some of the drawing courses are given in the new Physics Building.

In 1943-44 a modern brick and steel hangar, 80 by 120 feet, and a connecting building containing class room, office, shop, boiler room and pilot room were constructed on University property adjacent to the Morgantown Municipal Airport.

The University has one Cessna Model 140A airplane, one Cessna 170B airplane, and three Piper PA-18 airplanes which are used for flight training by University students. On the west side of the hangar is a concrete apron, 100 by 100 feet, which is connected to the Municipal Airport by a concrete taxi strip.

A Cessna four place Model 170A airplane is used by the Aeronautical Engineering Department for a course in Flight Testing and by the Civil Engineering Department for Aerial Mapping.

The Cessna airplanes are equipped with instruments for full panel and partial panel instrument flight instruction. A Link Instrument Trainer is used in conjunction with these airplanes to supplement the instrument instruction. The airplanes are equipped with two-way radio equipment, both low and high frequency. In addition, three of the airplanes have complete Omni-directional Range installations.

In 1950 the Aerodynamics Laboratory Building was constructed. This structure houses a modern low-turbulence wind tunnel used for instruction and research. The tunnel, a single return type, has a test section area of 10 square feet. The wind tunnel has a flexible 125 h.p. power system that makes possible a range of airspeeds from zero to 200 miles per hour. The tunnel is adaptable for tests on model aircraft, full scale components, and tests of a thermodynamic nature.

The Aerodynamics Laboratory Building has a 40 by 30 foot room on the west side with a 38-foot opening. The opening is connected to the hangar apron by a taxi strip. This room is used as an airplane shop and for testing purposes.

In the drawing rooms of Mechanical Hall are collections of models of structures, mechanisms, charts, state and government maps, surveys, photographs, engineering specifications, drawings, tracings, and blue prints. In connection with the drawing rooms there are blue printing and photographic rooms equipped with electric apparatus, photostat, and photographic outfits.

The *manufacturing process* laboratories consist of a gas- and electric-welding shop and machine shop. Each laboratory is equipped with suitable benches, measuring instruments, tools, shop appliances, and machines, such as are ordinarily installed in the larger engineering colleges and commercial shops.

A variety of semi-automatic and automatic machines provides unusual opportunity for the student of modern production methods.

The *power-plant equipment* consists of different types of steam and gas engines, direct-connected or belted to electric generators; a 100-kw. Westinghouse condensing steam turbine direct-connected to a direct-current generator; a 125-h.p. Skinner Universal unaflow steam engine direct-connected to a 240-volt three-phase alternator; a 50-h.p. motor-generator set; a Babcock and Wilcox intregal furnace boiler, capacity 7,000 lbs. of steam per hour fired with natural gas under conditions fully automatic modulating control. The boiler is equipped with an automatic boiler feed water regulator, flue gas temperature indicator, and Bailey steam flow meter. An independently gas-fired superheater equipped with temperature controller, pumps, condensers, air compressors, steam traps, and other auxiliary apparatus provides the means of furnishing any desired kind of power.

The *mechanical and steam laboratories* contain small steam and gas engines, two-stage air compressors, one water-cooled and one air-cooled, both equipped with electrical and mechanical controls, motor-driven fans, an axial flow air compressor, electric dynamometers, water brakes, Prony brakes, condensers, vacuum pumps, condensate pumps, steam calorimeters, CO_2 analyzer, steam and gas-engine indicators, revolution counters, planimeters, anemometers, pressure guages, thermometers, Venturi meters, orifices, pitot tubes, and nozzles for measuring the flow of air and steam, etc. These are supplemented by the power plant equipment previously described, which affords facilities for steam- and gas-engine tests and boiler tests with larger units, and also provides facilities for various lines of experimental investigation.

The *internal-combustion laboratory* contains a single-cylinder engine, a two cylinder two-stroke cycle engine, a four-cylinder engine, a four-cylinder opposed-piston type engine, a six-cylinder and an eight-cylinder automotive gasoline engine, a large two-cylinder gas engine, a Diesel tractor engine with electric dynamometer, a two-cylinder Diesel engine, water brakes, Prony brakes, generators, indicators, tachometers, planimeters, and other apparatus necessary for conducting performance tests on these engines.

The Industrial Engineering *motion and time study laboratory* contains time study watches, motion picture projectors, films, viewers and editors, motion picture camera; wink counter and special timing equipment. A multipurpose polygraph to record pulse, blood pressure and respiration and a portable oscillograph with amplifier are available for research. Models of machinery, furniture and fixtures are available for plant layout and design study.

The *electrical laboratory* has motor-generator sets which supply controlled direct-current or alternating-current power to meet the special requirements of the laboratory. These motor-generator sets supplement the power available from the Monongahela Power Company and the generators in the mechanical engineering laboratory.

In addition to standard types of direct and alternating-current motors and generators, the electrical laboratory has special types of machines, such as a Fynn-Weichsel motor, a rotary converter, alternators ranging from 25 to 800 cycles, a G.E. amplidyne demonstration set for use in servomechanism, an electronic direct-reading frequency meter with a range from 1 to 50,000 cycles per second, a high-frequency demonstration oscillator rated at 1,000 watts, an electronic Mot-O-Trol, etc. There are also standard types of motor generators, rectifiers, storage batteries reactances, capacitors, auto transformers, constant current transformers, and experimental apparatus for demonstrating many of the principles of electricity and

magnetism. The equipment of the laboratory includes, besides the standard laboratory measuring instruments, tachometers, slipmeters, stroboscopes, frequency meters, illuminometers, oscillographs, rotating standards, a Fahy permeameter, a Silsbee current transformer testing set, laboratory precision standards, a potentiometer for the calibration of direct and alternating-current instruments, a full wave reversing Thy-mo-trol drive, an instrument comparitor, magnetic amplifier, and a harmonic generator.

A relay demonstration board especially developed for college laboratories has been secured. This board demonstrates the complete protection of an electrical transmission line and associated equipment.

In the communications and electronics laboratory there are various electronic devices such as communication receivers, television receivers, cathode ray oscilloscopes, vacuum-tube voltmeters, audio and radio frequency bridges, oscillators, signal generators, square-wave generators, amplifiers, photoelectric relays, an ignitron and a metal tank rectifier, wave analyzer; also electronic testing devices such as tube-testers, multi-testers, an electronic switch, a chanalyst, and a dynamic demonstrator. An amateur radio station licensed as W8SPY is maintained normally by staff members for demonstrating the principles of radio communication.

For use in ultra-high frequencies and associated work there are micro-wave generators, electric-wave guides, a wave standard, a Mega-Match, parabolic and other electric-wave reflectors, and micro-wave demonstration devices.

Telephone equipment consisting of standard parts, relays, etc. is supplemented with parts and assemblies for demonstrating essential features of various types of manual and dial telephone exchanges. An artificial telephone line is available for studies of phenomena associated with electric wave propagation and electric filters.

The *Materials Testing Laboratory* is equipped with devices for testing cement, iron, steel, brick, stone, and other construction materials. The principal machines are an Olsen testing machine of 400,000-pound capacity which can accommodate tension and compression specimens up to 6 feet, and beams up to 16 feet in length; two hydraulic Baldwin-Southwark universal testing machines of the latest type, one of 200,000-pound capacity, the other of 60,000-pound capacity with autographic recording attachment; a 10,000-pound Olsen transverse testing machine; a 10,000-inch-pound Riehle torsion machine with autographic recorder; and Brinell, Rockwell, Shore, Galileo and Vickers hardness testers. Morehouse proving rings for calibration of testing machines are a part of the equipment of this laboratory. Photo-elastic and Stresscoat equipment has been provided for stress-analysis, and complete electrical-resistance strain-gage apparatus is available both for class demonstration and for research purposes.

The *hydraulic laboratory* pipe system is so connected that water may be used either from the city pressure lines or from either of two centrifugal pumps—one 350 g.p.m. and the other 600 g.p.m.—which take suction from three 4,000-gal. calibrated storage pits. Water is furnished to a weir tank where weirs of rectangular, triangular, or other shape may be tested; two orifice tanks where circular or square orifices and short tubes are tested under low heads; a 12-inch impulse wheel equipped with a glass paneled case and Prony brake for measuring the power developed; a Rotometer; a Eureka water meter; a Venturi meter; and two pipe lines designed for the study of pipe friction and the loss of head due to bends. Small rates of flow are measured by weighing the discharge on platform scales of 1,000-lb. capacity, while larger rates are weighed on a 10,000-lb. Fairbanks scale. The laboratory is fully equipped with gauges, manometers, and pitometers.

Through the courtesy of the Morgantown Water Commission a 12-inch pipe line is available for pitometer work. Rainfall records are obtained from a Ferguson recording rain gauge.

The *sanitary engineering laboratory* is well equipped for student work in water purification and sewage disposal. Hydrogen-ion concentrations may be measured by a Beckman pH meter, or by permanent color standards. Other colorimetric work is done with an electro-photometer. Turbidity may be measured by a U.S.G.S. rod, or by Jackson, Hellige or Baylis turbidimeters. Chlorine concentration in water is measured colormetrically, chemically or by a W&T amperometric apparatus. Membrane filter equpiment is used in bacterial work as well as the more conventional methods. An ozone generator is available for studies in taste removal and disinfection. In

addition, there is the usual supply of glassware, balances, chemicals, steam baths, pressure and dry-heat sterilizers, incubators, muffle furnaces, and microscopes.

A number of transits, levels, plane tables, and other surveying instruments are used by students in working out field-surveying problems. Aerial photographs of neighboring territory are available to be used in photogrammetric mapping. Topography is developed from these photographs by use of the Fairchild stereo comparagraph. Diapositive aerial photographs are used with a multiplex projector to demonstrate another method of producing topographic details. Aerial mapping cameras are available for mapping that is done in cooperation with the Aeronautical Engineering Department. The usual supply of steel tapes, level rods, range poles, plumb bobs, etc., are available and are used by students taking surveying.

Through cooperation with the Testing Division of the State Road Commission, students are given experience with the actual work of testing all kinds of highway materials including tar, asphalt, paint, steel, oil, cement, sand, gravel, stone, concrete, drainage pipe, and soils. Equipment available includes constant temperature baths, viscosimeters, specific-gravity balances, drying ovens, furnaces, a three-compartment DeVal abrasion machine, a Los Angeles abrasion machine, diamond core drill, ball mill, briquette machine, Dory hardness machine, Page impact tester, small rock crusher, motor-driven vibrating screens for both coarse and fine aggregates, standard moulds for cement and concrete specimens, concrete mixer, brick rattler, Kriege and Hubbard-Field stability testers, a 30°-below-zero refrigerator for freezing-thawing tests, an "electric eye" turbidimeter for cement testing, and equipment for consolidation, shear, stability, and permeability tests on soils.

The laboratories for *chemical engineering unit operations* and *unit processes* are well equipped for small-scale production of industrial chemicals and for conducting experimental work for the collection of performance and design data. Among the types of equipment in these laboratories are a Lummus 16-plate column still; a Badger copper fractionating unit fitted with an 8-inch, 15 plate bubble-cap column and all accessories including a 20-thermocouple temperature-measuring system; a Great Western pot still also fitted to operate as a steam still; Stokes double-effect evaporator with vacuum pump; 10-gallon Dopp vacuum pan; Devine crystallizer for both atmospheric and vacuum operation; Sperry filter press, open-delivery washing type, with montejus and pumps; Shriver stainless-steel portable self-contained filter unit, closed-delivery washing type; Oliver continuous rotary filter; American rotary disc filter; Kelly pressure filter; several crock filters; International centrifuge; Tolhurst center-slung variable speed centrifuge; Sharples supercentrifuge; Proctor and Schwartz cabinet dryer with automatic-temperature and humidity controls; Devine vacuum-chamber dryer; Buflovak double-drum dryer for atmospheric or vacuum operation; large Freas precision drying oven; single-tube experimental heat exchanger with automatic multipoint temperature recorder; Ross Multitube, two-pass heat exchanger; "Karbate" absorption tower, nitrator, sulphonator, fusion pot, autoclave, and Z-blade mixer with stainless-steel bowl.

In connection with this equipment there is provided a completely equipped modern chemical laboratory furnished with specialized instruments and apparatus such as nitrometers, centrifugals, constant-temperature baths, refractometers, melting and boiling-point apparatus, turbidimeters, and colorimeters, together with apparatus for complete analytical, testing and control work.

The *ceramics laboratories* are well equipped for instruction and research. They contain a muffle pottery kiln; Kutz clay-testing kiln; two fusion-point furnaces; frit and glass-melting furnace; general heating furnace and decorating kiln. All the kilns and furnaces are gas-fired and except for the pottery and decorating kiln, have individual motor-driven blowers. There are also available a number of small and medium-sized electric furnaces and a Hoskins heavy-duty large size furnace. The grinding equipment includes a jaw crusher; crushing rolls; sample grinder; hammer mill; wet pan; 18-inch by 25-inch ball mill; gang of six ball mills of three sizes and two gallon-size individual ball mills. A Federal unit for dust classification and a Tyler Ro-Tap sieve shaker are also part of the equipment. For plastic clay work there is provided a Patterson clay washing outfit, slip pump, filter press, and a vacuum pugmill, laboratory size; volumeters; jigger; and pottery wheels for individual use. Other equipment includes a spray booth; raw-materials bins; Fisher and Polaroid strain

finders for glass. The laboratories are equipped for practically all routine tests and analyses.

The *metallurgy laboratory* is well equipped for experimental work along the lines of heat treating, and photomicrographic examination of metals and alloys. Heat treating equipment includes two electronic high frequency induction heaters, and several electric muffle furnaces with thermocouples and pyrometers. Metallographic equipment includes: a metallurgical specimen cut-off machine, a belt surfacer, specimen mounting presses, polishing tables each having three independently motor-driven polishing discs, seven metallurgical microscopes, two with camera attachments, a B & L metalloscope, a B & L research metalloscope complete with accessories, two darkrooms equipped with apparatus for developing, printing, enlarging, and color photography. Other equipment includes: two Westinghouse metallurgical X-ray units, a Reihle universal testing machine, and Rockwell hardness testers.

The *electrochemical industries laboratory* contains a 1.2 kw. motor generator set for electroplating; tanks for electrolytic cleaning, rinsing, and plating; Reliance variable-speed polishing lathe; Ajax-Northrup high-frequency furnace; Lectromelt 37.5 kva. electric arc furnace; Vorce chlorine-caustic cell, Fisher titrimeter; hypochlorite cell, iodoform cell, clay dewatering cell; Fisher electro-analyser; Beckman pH meter with accessories; a number of rheostats, ammeters, voltmeters and potentiometers.

The *laboratory for water examination* and investigations of liquid industrial wastes contains all the necessary apparatus, instruments, and chemical reagents for any required qualitative tests or quantitative determinations on boiler and industrial waters and trade wastes. For special tests and procedures there are available: an autoclave, dry-sterilizing oven, ammonia in water stills, Nessler tubes, biological and polarizing microscopes, counting cells, settling cones, incubators, Kober colorimeter, sets of color standards for complete range of hydrogen ion measurements, Jackson turbidimeter, U.S.G.S. color discs and tubes, and a Parr photoelectric turbidimeter for sulfate determinations.

The *fuels and oil-testing laboratories* are supplied with a U. S. Steel Corporation type furnace and absorption chain for determining the by-product coking values of coals; a multiple-unit electric furnace and absorption chain for ultimate analysis of coal; Saybolt four-tube viscosimeter, special flasks and centrifuge tubes for determination of water and sediment in oils; flash and fire-point testers, sulfur-in-oil outfit; Kjeldahl-nitrogen digestion and distillation equipment. Assemblies for analysis of fuel and stack gases include Bureau of Standards precision, Orsat technical, Fisher precision, Hempel burettes and pipettes, referee total sulfur, and Tutwiler H_2S burette, Reed vapor-pressure bomb for gasoline, Parr total-carbon apparatus, and Lovibond and A.P.A. colorimeters.

The services available in the Chemical Engineering Department laboratories are: 110-volt and 220-volt a.c., 2-volt to 150-volt d.c., superheated and saturated steam, compressed air, vacuum, gas, and hot and cold water.

Other facilities available in this department are: (1) a large well-equipped drawing and design room with extensive collection of catalogues and texts on plant equipment and structures; (2) a locker room with individual student lockers, industrial washers, and showers; (3) a cold room with automatic-temperature control; (4) a well-equipped shop operated by a skilled mechanician; (5) a large stockroom for chemicals, apparatus, and instruments, and having an adjacent special chamber for acid storage; and (6) separate research laboratories.

The latest trade literature, catalogues, and reports of commercial developments in engineering are kept in classified files for students' reference. The University library has a thoroughly classified and indexed collection of the standard and latest books in engineering and the allied sciences, complete bound sets of the transactions of several scientific and engineering societies, and current issues and bound volumes of the principal scientific technical periodicals.

The extensive technical library donated by Mrs. Mary Dille Emory as a nucleus for a memorial to her husband, Prof. Frederick Lincoln Emory, deceased, is also available for use.

School of Mines Laboratories

The mining laboratories in the Mineral Industries Building are designed to supplement the technical instruction related to the various phases of mining engineering and to correlate basic theory and principles with their application in industrial practice.

The *mining laboratory* includes various types of electrical control systems as commonly used with modern mining equipment, especially arranged to permit analysis of the electrical circuits and operating principles. Specimens of typical equipment for drilling, cutting, and blasting are included, together with key assembly parts of such units. There also are devices for demonstrating and determining the explosibility of suspended dusts, dust analysis equipment, apparatus for determining dust counts, and models showing methods of working anthracite, bituminous coal, and mineral deposits.

The *mine ventilation laboratory* is equipped with centrifugal and multistage axial flow fans, together with the necessary facilities for demonstrating the principles of fluid flow as related to mine ventilation and determination of the performance characteristics of the fans used. A gas testing room is provided for practice and demonstration with flame safety lamps and other gas detection devices. The laboratory is provided with apparatus and facilities for air analysis; and the William Clifford and James T. Beard collection of safety lamps is of particular academic interest as related to the history and development of mine lighting.

The *fuels laboratory* is especially equipped for the analysis and study of fuels, with particular emphasis on coal and coke. The equipment includes analytical balances, calorimeters, drying and roasting ovens, fusion furnaces, and special equipment necessary for the proximate and ultimate analysis of coal and the determination of coking and ash fusion characteristics. An X-ray diffraction unit is available for special analytical work.

The *coal preparation laboratory* is outstanding in its facilities for coal testing and in the variety of coal cleaning and preparation equipment provided. The testing equipment includes facilities for screen analysis, float and sink separation, and the various units required to reduce and prepare samples for laboratory analysis. Cleaning equipment includes a sand media cone, a three-cell Baum-type jig, a calcium chloride washer, a heavy media cone washer, spiral separator, concentrating tables, basket jigs, an air cleaning table with filter-type dust collectors, a magnetic separator, centrifuges, and a complete closed circuit mineral flotation unit. The cleaning units listed are all self-contained pilot units with auxiliary equipment to permit complete test operation and are in addition to a wide range of individual devices for demonstration and instructional purposes.

The *oil and gas laboratory* contains a full range of equipment necessary for determination of the chemical and physical properties of oil and gases as related to their use, transmission, and production. Apparatus and facilities are provided for core analysis to determine saturations, porosity, permeability, and grain structure of producing sands, together with diamond core drills and saws for the preparation of samples for such tests. Also included are various specimens of drilling and other production equipment for instruction and demonstration, together with rotary drilling mud testing apparatus. The gas measurement section includes bell-types, critical flow, and low pressure flow provers for testing meters of various types. Also provided is a wide range of domestic, orifice and large capacity displacement meters with the necessary meter runs for their operation.

Special equipment for instruction in geophysics is provided, and the school maintains an earth-movement recording seismograph station, operated in accordance with standards approved by the U. S. Coast and Geodetic Survey, for recording earthquakes and the movement of severe storm zones. Portable blast seismic instruments are available for field testing and demonstration.

Facilities for Inspection Trips

The University is located in a region which affords the student unusual opportunities for practical observation and education in engineering. Morgantown is the center of an extensive coal region in which are large workings of the Pittsburgh, Sewickley, and upper Freeport seams, while nearby are the Fairmont and Connells-

ville fields. West Virginia's gas and oil district approaches within four miles of the city. The region abounds with rich deposits of glass sand, limestone, clay, shales, and valuable building stone.

Within the city limits and in nearby towns are numerous factories and plants, including large steam and hydraulic central stations for the production of electric power, cement plants, extensive glass factories manufacturing glass of every description, an anhydrous ammonia plant, brick plants, by-products coking plants, brass plant, brass and iron foundries, large oil- and gas-pumping stations, glass sand and limestone-crushing plants, etc.

Pittsburgh, the center of the world's greatest iron and steel industries, is only seventy-four miles from the University. The Wheeling area, with its large steel and ceramic industries and its large modern central stations, is approximately the same distance. The rapidly expanding Ohio River Valley industrial area in the vicinity of Parkersburg and the concentration of plants in the Kanawha Valley affords an excellent opportunity to visit large modern chemical plants.

Organized inspection trips under faculty supervision are taken each year. Credit for one inspection trip is required for graduation.

NATIONAL SOCIETIES

Student chapters of the following national societies are maintained: Institute of the Aeronautical Sciences, American Society of Agricultural Engineers, American Institute of Chemical Engineers, American Society of Civil Engineers, American Institute of Electrical Engineers, Institute of Radio Engineers, American Institute of Mining and Metallurgical Engineers, American Society of Mechanical Engineers, and American Institute of Industrial Engineers. Meetings of these student branches are held weekly.

The West Virginia Alpha Chapter of Tau Beta Pi was installed at West Virginia University on June 3, 1922. Tau Beta Pi is the honorary engineering fraternity and has chapters in 96 leading engineering colleges. Membership may be conferred upon candidates for the Degree of Bachelor of Science in Aeronautical, Agricultural, Chemical, Civil, Electrical, Mechanical, and Mining Engineering who have maintained a rank in scholarship in the highest fifth of the class.

The West Virginia Upsilon Chapter of Sigma Gamma Epsilon was installed at West Virginia University on May 27, 1927. Sigma Gamma Epsilon is an honorary mineral industries fraternity with chapters in thirty of the leading universities. Seniors and juniors in mining engineering and majors in metallurgy and ceramics in chemical engineering who have attained high scholarship rank are eligible for membership.

The West Virginia Pi Gamma Chapter of Pi Tau Sigma was installed at West Virginia University on March 31, 1942. This is an honorary mechanical engineering fraternity with chapters in fifty-nine universities. Seniors and juniors in mechanical engineering who have attained a high scholastic rank are eligible for membership.

The West Virginia Beta Rho Chapter of Eta Kappa Nu was installed at West Virginia University on May 2, 1947. Eta Kappa Nu, national electrical engineering honorary society, has qualifications for membership which distinctly stimulate and reward high scholarship. The upper one-fourth of the junior class and the upper one-third of the senior class who have high scholastic standings and good character are eligible for membership. A loan fund is maintained by the local chapter for students enrolled in the College of Engineering.

The West Virginia Chapter of Chi Epsilon was installed at West Virginia University on May 14, 1949. This is an honorary civil engineering fraternity with chapters in thirty-nine colleges and universities. Seniors and juniors in civil engineering who have attained a high scholastic rank are eligible for membership.

The West Virginia Chapter of Alpha Pi Mu was installed May 14, 1955. This is an honorary industrial engineering fraternity with chapters in fourteen universities having accredited curriculum. Senior and junior industrial engineering students who have attained high scholastic rank are eligible for membership.

The West Virginia Chapter of Sigma Gamma Tau was installed May 21, 1955. This is an honorary aeronautical engineering society with chapters in fifteen leading universities and colleges. The society recognizes and honors junior and senior students in aeronautical engineering who have through scholarship, integrity, and outstanding achievement been a credit to West Virginia University.

STANDING COMMITTEES

Engineering Schedules: Professor E. C. Jones.
Library: Professors Seibert and Speiden and Associate Professor Slonneger.
Committee on Scholarship: Professors C. H. Cather, Fairbanks, Associate Professor Smith.

REQUIREMENTS FOR DEGREES

Any student, in order to be eligible to receive a Bachelor's degree in any branch of engineering for which degrees are offered, in addition to satisfying all entrance requirements shall be required to complete satisfactorily the number of semester hours of work as specified in the curriculum of the department leading to the degree for which the student is a candidate, plus the general requirements of physical education and military science required by the University for such a degree.

SUBSTITUTIONS

The following substitutions are regularly allowed in addition to special substitutions listed elsewhere:
Chemistry 115 for Chemistry 15.
Physics 1, 2, 109, and 110 for Physics 111 and 112.
Ch.E. 235 for Ch.E. 234.

THESIS

Any candidate for a baccalaureate degree in engineering may with the consent of his major professor prepare a thesis on some subject relating to a special branch of engineering or other department of applied science. It will be presented for approval first to the instructor under whose guidance it has been prepared, then to the head of the department in which the degree is to be conferred. A typewritten copy of the thesis prepared in accordance with official specifications and signed by both the instructor in charge and the head of the department, must be placed in the University library before graduation.

THE COLLEGE OF ENGINEERING CURRICULA

The several four-year curricula are set up to give, in the first two years, a well-rounded training in the basic sciences of mathematics, chemistry, and physics and in English. A moderate amount of shop work, drawing and surveying is given to introduce the student to the practical side of engineering.

This is followed by such technical subjects as mechanics, thermodynamics, and electricity, the degree of emphasis varying somewhat with the curriculum followed. These courses bridge the gap between the pure sciences and the professional courses. In addition, courses in the humanities are given throughout the four years.

In the third and fourth years special emphasis is placed on the professional work of the engineer. In these years a certain number of credit hours are available for electives.

1. A four-year curriculum leading to the degree of Bachelor of Science in Aeronautical Engineering.
2. A four-year curriculum leading to the degree of Bachelor of Science in Agricultural Engineering.
3. A four-year curriculum leading to the degree of Bachelor of Science in Chemical Engineering.
4. A four-year curriculum leading to the degree of Bachelor of Science in Civil Engineering, with option in sanitary engineering.
5. A four-year curriculum leading to the degree of Bachelor of Science in Electrical Engineering.
6. A four-year curriculum leading to the degree of Bachelor of Science in Mechanical Engineering,, with options in power and industrial engineering.
7. Combined science and engineering curricula extending over five or more years leading to the degree of Bachelor of Science, and Bachelor of Science in Engineering.

Plan for Numbering Courses

For convenience it is customary to designate the course of study by the name of the department or group of departments and the number of the particular course. Whenever reference is made to engineering courses in the course announcements and textual matter the department or groups of departments will be indicated as follows:

Aeronautical Engineering	A.E.	Mechanical Engineering	M.E.
Agricultural Engineering	Ag.E.	Mechanics	M.
Chemical Engineering	Ch.E.	Mining Engineering	E.M.
Civil Engineering	C.E.	General	G.
Electrical Engineering	E.E.		

The plan for numbering courses is as follows:

Courses 1 to 99—intended primarily for freshmen and sophomores.

Courses 100 to 199—junior and senior courses not open to graduates.

Courses 200 to 299—advanced courses for juniors, seniors, and graduates.

Courses 300 to 399—advanced courses open only to graduates.

Classification of Students

To be classified as a freshman in the College of Engineering or School of Mines a student must have credit for at least 15 units of entrance requirements. To be classified as a sophomore he must have credit toward his degree for 30 hours; as a junior 72 hours; as a senior 112 hours; except that a student who is a candidate for the degree of Bachelor of Science to be classified as a sophomore must have credit for 27 hours of college work; as a junior, 60 hours; as a senior, 94 hours.

CURRICULUM IN AERONAUTICAL ENGINEERING

Degree: Bachelor of Science in Aeronautical Engineering

Aeronautical Engineering deals with the design and construction of aircraft and aircraft power plants; theoretical aerodynamics; aircraft performance and stability; and structural design.

The aeronautical engineering curriculum has been designed to furnish the student with a firm fundamental knowledge of the fields listed above. The senior year electives furnish an opportunity for advanced study in some of these fields. An inspection trip is required of all fourth year students. The trip is made in the spring and may include visits to government operated aeronautical research laboratories or industrial aircraft plants.

A number of laboratory courses are included in the aeronautical engineering curriculum. These courses supplement the instruction in the lecture courses and also furnish the students with an opportunity to become familiar with modern laboratory techniques. The Aeronautical Engineering Department operates five laboratories for student instruction.

1. *Aerodynamics Laboratory*—a 250 mile-per-hour wind tunnel is used to supplement instruction in aerodynamics, performance, stability and instrumentation.
2. *Aircraft Structures Laboratory*—to augment classroom work dealing with the theory of aircraft structural analysis.
3. *Design Laboratory*—for second, third and fourth year courses in detail, aerodynamic and structural design.
4. *Flight Test Airplane*—A Cessna Model 170 airplane is used as a flying laboratory for a course in flight testing.
5. *Flight Hangar*—the hangar houses six University owned airplanes. Five of the airplanes are used for flight training instruction. (See Aviation courses.)

FIRST YEAR AERONAUTICAL ENGINEERING

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
Engl. 1—Comp. and Rhet.	3	Engl. 2—Comp. and Rhet.	3
G. 1—Engineering Lectures		Math. 5—Analytical Geom.	4
Hist. 53—Mod. America or M.E. 20—Eng'g Drawing	3	M.E. 11—Machine Work	2
Math. 3—College Algebra	3	M.E. 20—Eng'g Drawing or Hist. 53—Mod. America	3
Math. 4—Plane Trig.	3	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
M. 101—Statics	3	A.E. 116—Aircraft Det. Design	2
Math. 107—Calculus	4	Engl. 126—Adv. Comp.	3
M.E. 26—Descriptive Geom.	2	M. 102—Mech. of Materials	3
Mil. or Air Sci. 3	2	Math. 108—Calculus	4
Phys. 111—General Physics	5	Mil. or Air Sci. 4	2
Speech 11—Public Speaking	3	Phys. 112—General Physics	5
	19		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A.E. 201—Elem. Aerodynamics	3	A.E. 202—Aerodynamics	3
C.E. 115—Fluid Mechanics	3	A.E. 209—Aircraft Perf. & Stab.	3
Econ. 1—Prin. of Economics	3	A.E. 210—Basic Aircraft Struc.	3
M. 103—Mech. of Materials	3	Econ. 2—Prin. of Economics	3
M. 104—Kinetics	3	M.E. 121—Thermodynamics	3
Math. 253—Adv. Applied Math.	3	Non. Tech. (Group I)*	3
	18		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A.E. 207—Aerodynamic Design	3	A.E. 205—Experimental Aerodyn.	2
A.E. 211—Redundant Aircraft Struc.	3	A.E. 212—Applied Aircraft Design	3
A.E. 217—Aircraft Structural Des.	3	A.E. 213—Aircraft Structures Lab.	1
Ch.E. 250—Physical Metallurgy	3	E.E. 105—Electrical Fund.	4
M.E. 229—Int. Comb. Engines	3	G. 100—Inspection Trip	Cr.
Elective**	3	Non-Tech. (Group II)*	3
		Elective**	5
	18		18

RECOMMENDED ELECTIVES

A.E. 203—Applied Aerodynamics	3	A.E. 220—Seminar	2-6
A.E. 208—Flight Testing	2	A.E. 299—Thesis	2-6
A.E. 214—Adv. Aircraft Struc.	3	Flight Training	1-3
A.E. 218—Aeroelasticity	3	Non-Technical	1-3

**A minimum of five hours of technical electives must be selected from the approved list.

*Non-Technical Group List

Group I		*Group II*	
Phil. 4—Intro. to Philosophy	3	Pol. Sci. 101—Intro. to Govt.	3
Psych. 1—Intro. to Psychology	3	Soc. 1—Intro. to Sociology	3

CURRICULUM IN AGRICULTURAL ENGINEERING

Degree: Bachelor of Science in Agricultural Engineering

Agricultural Engineering is the application of engineering principles to agriculture. Success in the application of engineering fundamentals to the agricultural industry requires knowledge of both the biological and physical sciences. The purpose of the course is to give the student who completes it general training in agricultural and engineering fundamentals. Considerable stress is given to basic requirements of plant and animal life on the farm which affect engineering practices, but greater emphasis is placed on a thorough knowledge of those underlying principles and methods which are the foundation of all the engineering professions.

Although the curriculum gives no opportunity for specialization, Agricultural Engineering is made up of four major fields. These are Farm Power and Machinery, Farm Structures, Soil and Water Conservation, and Rural Electrification.

Students preparing to take Agricultural Engineering should present for entrance as many units as possible in mathematics, chemistry, and physics; also, sufficient farm experience to meet the College of Agriculture requirements.

Some of the organizations and industries employing agricultural engineers are electric power companies and co-operatives; farm machinery manufacturers and distributors; manufacturers and distributors of building materials; oil companies; electric equipment and other suppliers for farm utilities; trust companies; farm management agencies; federal agencies such as Soil Conservation Service; U.S. Department of Agriculture, Federal Land Bank, and Indian Service; colleges and universities; Army and Navy, and foreign governments.

Opportunities for employment are numerous. At no time since the establishment of the profession has it been crowded; the outlook is good for a continuance of this situation. With agriculture becoming increasingly mechanized, the demand for agricultural engineers is increasing and should continue to increase. New opportunities arise as mechanization continues. Starting salaries are in line with salaries in other branches of engineering.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
Engl. 1—Comp. and Rhet.	3	Engl. 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	Math. 5—Analytical Geom.	4
Hist. 53—Mod. America or M.E. 20—Eng'g Drawing	3	M.E. 11—Machine Work	2
Math. 3—College Algebra	3	M.E. 20—Eng'g Drawing or Hist. 53—Mod. America	3
Math. 4—Plane Trig.	3	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ag. E. 10—Introductory Agr'l Eng'g	3	Math. 108—Calculus	4
Math. 107—Calculus	4	M.E. 7—Welding & Heat Treatment	1
M.E. 26 Descriptive Geometry	2	M.E. 29—Mechanism	3
M. 101—Statics	3	M. 102—Mech. of Materials	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. 111—General Physics	5	Phys. 112—General Physics	5
	19		18

THIRD YEAR AGRICULTURAL ENGINEEERING

First Sem.	*Hr.*	*Second. Sem.*	*Hr.*
Ag. Econ. 102—Agr'l Economics	3	Ag. E. 100—Farm Structures	3
E.E. 105—Elect. Fundamentals	4	C.E. 1—Surveying	2
M.E. 113—Machine Design	3	E.E. 106—Electrical Machinery	4
M. 103—Mech. of Materials	3	Engl. 126—Adv. Comp.	3
Agronomy 2—Soils	4	M.E. 121—Thermodynamics	3
		M. 104—Kinetics	3
	17		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ag. Econ. 104—Farm Management	3	Ag. E. 190—Farm Machinery	3
Ag. E. 110—App. of Elect. to Agr.	3	Agronomy 1—Farm Crops	4
Ag. E. 140—Soil & Water Cons.	3	G. 100—Inspection Trip	Cr.
Ag. E. 230—Farm Power	4	Speech 11—Public Speaking	3
C.E. 115—Fluid Mechanics	3	Elect. (Agri.)	3
Elect. (Agri.)	3	Elect. (Eng'g)	3
		Elect. (Non-Tech)	3
	19		19

Engineering Electives must be selected from the following courses: Chem. Eng'g 250, 284; C.E. 122; M.E. 140, 203; Geology 1.

Agricultural Electives must be selected from the following courses: Agronomy 230; D.H. 11, 12; A.H. 11; P.H. 1; Hort. 1, 2, or 39.

Non-Technical Electives must be selected from the following courses: Pol. Sci. 101; Hist. 2, 52; Psychology 1; Philosophy 4; Sociology (Rural 105).

CURRICULUM IN CHEMICAL ENGINEERING

Degree: Bachelor of Science in Chemical Engineering

The standard four-year course in chemical engineering has been developed to qualify young men for positions in operation, design, construction, and management of manufacturing plants in which raw materials are subjected to chemical and physical changes to produce finished products. This curriculum includes fundamental courses: in mathematics through differential equations; in chemistry: inorganic, analytical, organic, and physical; in physics; in basic engineering: engineering drawing, mechanics, and strength of materials; in electrical engineering; in metallurgy; in chemical engineering: principles, calculations, thermodynamics, design, unit operations, unit processes, and economics; in electrochemical and chemical technology. This curriculum provides the student with a broad foundation in the fundamental principles of those subjects which wide experience has shown are essential for a successful career in the chemical engineering profession; or as engineers in any industry involving a succession of unit operations and unit processes.

To complete the requirements for the B.S.Ch.E. degree in four years, students should follow the curriculum as outlined, although it is definitely advisable to take Organic Chemistry 233 and 238 in the Summer Session before the third year.

Students preparing to take chemical engineering should present for entrance as many units as possible in mathematics, chemistry, and physics, and it is desirable to also have units in German, French, or Spanish. While certain basic courses in English, economics, and public speaking are required in the regular curriculum, a student will obtain a broader education in economics, history, language, science, applied technology, and engineering by taking the combined Bachelor of Science and Chemical Engineering courses. By a careful selection of electives both degrees may be earned in five years.

In recognition of the increasing tendency on the part of industry to promote engineers to administrative and executive positions, the curriculum has been broadened to include more required work in the field of humanities and additional elective courses may be selected from the humanities and business administration courses.

In addition to the demand for students trained in chemical engineering there is considerable demand in the state for men trained in ceramics, metallurgy, and fuel

technology, fields closely allied with chemical engineering. A basic course in general metallurgy is required of all students seeking a degree in chemical enginering. In addition, students may elect courses in metallurgy, ceramics, and fuel technology in their undergraduate and especially in their graduate programs. These courses are integrated with the chemical engineering courses, making use of many of the unit process and unit operation concepts common to these categories.

The department, along with the other departments of the College of Engineering and the School of Mines, is a part of the Engineering Experiment Station. The combined facilities of the department and the station are available for investigation and research. The greater number of projects are so selected that graduate students, and to some extent undergraduate students, participate in the program. The work of the Engineering Experiment Station thus is part of the educational program.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
G. 1—Engineering Lectures	Cr.	Chem. 2—Inorganic Chem.	4
Chem. 1—Inorganic Chem.	4	Engl. 2—Comp. and Rhet.	3
Engl. 1—Comp. and Rhet.	3	Math. 5—Analytical Geom.	4
History 53—Modern America	3	M.E. 20—Engineering Drawing	3
Math. 3—College Algebra	3	Mil. or Air Sci. 2	2
Math. 4—Plane Trig.	3	Phys. Ed. 2	1
Mil. or Air Sci. 1	2		
Phys. Ed. 1	1		
	19		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ch.E. 140—Ch.E. Calculations	2	Engl. 126—Adv. Composition	3
Chem. 15—Quant. Analysis	3	M. 101—Statics	3
Math. 107—Calculus	4	Math. 108—Calculus	4
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. 111—General Physics	5	Phys. 112—General Physics	5
Speech 11—Public Speaking	3		
	19		17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ch.E. 205—Principles of Ch.E.	5	Ch. E. 207—Principles of Ch.E.	5
Chem. 233—Organic Chem.	4	Chem. 238—Organic Chem.	4
Chem. 260—Physical Chem.	4	Chem. 261—Phys. Chem.	4
Econ. 1—Prin. of Economics	3	Econ. 2—Prin. of Economics	3
Math. 240— Differential Eq.	3	M. 102—Mech. of Materials	3
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ch. E. 211—Chem. Eng'g Lab.	2	Ch.E. 212—Chem. Eng'g Lab.	2
Ch.E. 234—Chem. Technology	2	Ch.E. 238—Electrochem. & Corrosion	2
Ch.E. 242—Ch. E. Thermodynamics	3	Ch.E. 243—Ch.E. Thermodynamics	3
Ch.E. 272—Ch.E. Design	3	Ch.E. 250—Phys. Met.	3
E.E. 105—Elec. Fundamentals	4	Ch.E. 273—Ch.E. Design	3
*Electives	5	*Electives	6
		G. 100—Inspection Trip	Cr.
	19		19

*At least 6 of the 11 hours must be selected from the following subjects: English, Language (6 hr. minimum), Psychology, History, Political Science, Sociology, Economics, Commerce.

CURRICULUM IN CIVIL ENGINEERING

Degree: Bachelor of Science in Civil Engineering

The civil engineering curriculum has been planned to give a broad coverage of those general and scientific subjects that form the foundation of all engineering and special training in the civil engineering field. General subjects are included in most of the semesters of the four-year program. These are intended to improve and enrich the student's understanding of man's relation to man and they have been classified as communications (English, public speaking, foreign languages), humanities (history, philosophy, psychology) and social consciousness courses (economics, political science and sociology). In addition to drawing, physics, and mathematics which form the roots of any engineering course, the student investigates such fields as chemistry and geology which give a breadth of scientific training.

A thorough study of the fundamentals of plane and topographic surveying is scheduled for the second year and the following summer. During this summer, the student spends five weeks at Camp R. L. Morris near Terra Alta, West Virginia, concentrating on field surveys. Training at the professional level in photogrammetry may be elected during the fourth year to round out this work.

Courses in mechanics, thermodynamics and electrical engineering furnish breadth in training in engineering subjects and depth of training comes from professional work in highway, railway, structural, sanitary and hydraulic engineering, any of which may be the specialty of the civil engineer.

The civil engineering professional field is too broad to be covered thoroughly in a four-year course. For this reason, primary emphasis is placed on engineering fundamentals. A degree of professional specialization is still possible, however. In addition to the sanitary engineering option on page 273; the student, during his last year, may elect specialized courses in the fields of transportation, water power or photogrammetry. If he prefers, he may elect to prepare a thesis or may select some upper division courses from other engineering departments.

The State Road Commission of West Virginia and the Civil Engineering Department offer a cooperative program in which the student divides his time between formal education and practical experience. One or more semesters are spent each year pursuing the regular Civil Engineering curriculum in school and for the remainder of the time the trainee is employed by the State Road Commission where all possible advantage is taken of the engineering theory which the student has mastered so far. The student's pace through the curriculum is determined primarily by his financial position. Upon successful completion of the program, the regular B.S.C.E. degree is granted and the trainee is offered an engineering position with the State Road Commission.

FIRST YEAR CIVIL ENGINEERING

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
Engl. 1—Comp. and Rhet.	3	Engl. 2—Comp. and Rhet.	3
G. 1—Engineering Lectures		Hist. 53—Modern America	3
Math. 3—College Algebra	3	Math. 5—Analytical Geom.	4
Math. 4—Plane Trig.	3	M.E. 26—Descriptive Geom.	2
M.E. 20—Engineering Drawing	3	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 2—Surveying	4	C.E. 3—Route Surveying	2
Geol. 1—Gen. Geology	3	M. 101—Statics	3
Geol. 2—Geol. Lab.	1	Math. 108—Calculus	4
Math. 107—Calculus	4	Mil. or Air Sci. 4	2
Mil. or Air Sci. 3	2	Phys. 112—General Physics	5
Phys. 111—General Physics	5	Speech 11—Public Speaking	3
	19		19

SUMMER

C.E. 104—Summer Surveying (five weeks) 5

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Econ. 1—Prin. of Economics	3	C.E. 115—Fluid Mechanics	3
E.E. 105—Electrical Fundamentals	4	C.E. 121—Structural Analysis	3
Engl. 126—Adv. Composition	3	C.E. 105—Highway Engineering	4
M. 102—Mech. of Materials	3	Econ. 2—Prin. of Economics	3
M. 104—Kinetics	3	M. 103—Mech. of Materials	3
M.E. 121—Thermodynamics	3	Non-tech. elective	3
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 106—Railway Engineering	3	C.E. 120—Engineering Materials	2
C.E. 123—Structural Design	3	C.E. 204—Advanced Structures	3
C.E. 130—Water Supply and Sewerage	5	C.E. 206—Reinforced Concrete	3
Non-tech. elective	3	C.E. 207—Foundations	3
Technical elective	3	G. 100—Inspection Trip.	Cr.
		G. 190—Law for Engineers	3
		Technical electives	4
	17		18

Six hours of foreign language may be taken instead of Speech 11 and English 126. Non-technical electives must include 3 hours from each of the following groups:

Group 1—History, Psychology, Philosophy

Group 2—Economics, Political Science, Sociology

RECOMMENDED TECHNICAL ELECTIVES

C. E. 124—Thesis	2-4	C.E. 209—Highway Mtls. Lab.	2
C.E. 200—Water Power Eng'g	2	C.E. 210—Photogrammetry	2
C.E. 208—Transp. Econ.	2	C.E. 211—Geodesy	3

Up to 4 hours of technical electives may be selected from upper division courses in other engineering departments with Adviser's consent.

Civil Engineering: Sanitary Option

Civil Engineering students who desire to specialize in sanitary engineering follow the regular curriculum through the five-week summer surveying course except they will take Chemistry 15, Quantitative Analysis, 3 hours, in the second semester of the second years instead of Speech 11. The remainder of the curriculum for sanitary engineering option is given below.

THIRD YEAR

First Sem	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233—Organic Chem.	4	Bact. 141—Gen. Bacteriology	4
Econ. 1—Prin. of Economics	3	C.E. 115—Fluid Mechanics	3
M. 102—Mech of Materials	3	C.E. 121—Structural Analysis	3
M. 104—Kinetics	3	Econ. 2—Prin. of Economics	3
Speech 11—Public Speaking	3	Engl. 126—Adv. Composition	3
Non-tech. elective	3	M. 103—Mech. of Materials	3
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 117—Municipal Engineering	2	C.E. 105—Highway Engineering	4
C.E. 130—Water Supply and Sewerage	5	C.E. 120—Engineering Materials	2
C.E. 202—Water Purification	3	C.E. 203—Sewage Disposal	3
E.E. 105—Electrical Fundamentals	4	C.E. 206—Reinforced Concrete	3
Non-tech. elective	3	C.E. 207—Foundations	3
		G. 100—Inspection Trip	Cr.
		G. 190—Law for Engineers	3
	17		18

Six hours of foreign language may be taken instead of Speech 11 and English 126.
Non-tecnical electives must include 3 hours from each of the following groups:
Group 1—History, Psychology, Philosophy
Group 2—Economics, Political Science, Sociology

CURRICULUM IN ELECTRICAL ENGINEERING

Degree: Bachelor of Science in Electrical Engineering

The course in electrical engineering has been developed for the purpose of giving the student who completes the course general training in engineering fundamentals and broad training in the field of electrical engineering. Special training in the electrical power field or the communications field is available as electives in the senior year.

In the first two years of electrical engineering the work is limited mostly to those subjects which are essential as preparatory courses for the more technical courses in the third and fourth years.

During the third year, fundamental courses in electrical engineering are introduced. An additional mathematics course of special importance to electrical engineering is included, as well as other fundamental engineering subjects.

In the fourth year the curriculum is made up almost entirely of courses in electrical engineering. During the year, the student elects a group of courses pertaining to the field of communications or to the field of electric power (see opposite page).

It will be observed that for many of the courses scheduled in this curriculum, the work of the classroom is supplemented by concurrent work in the laboratory or drafting room. By means of experimental work in the laboratory, followed with well-written reports and problems in the design of electrical apparatus, the student acquires a clearer conception of the facts and principles discussed in the classroom and also a working knowledge of the subject matter. All of this is essential if he is to become a successful electrical engineer.

In order that students may receive a broader training in the field of humanities, six hours of non-technical subjects are required. The non-technical electives must be selected from the subjects listed below the curriculum. It is recommended that not more than one course be elected in each of the subjects listed.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
Engl. 1—Comp. and Rhet.	3	Engl. 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	Math. 5—Analytical Geom.	4
Hist. 53—Mod. America or M.E. 20—Eng'g Drawing	3	M.E. 11—Machine Work	2
Math. 3—College Algebra	3	M.E. 20—Eng'g Drawing or Hist. 53—Mod. America	3
Math. 4—Plane Trig.	3	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
E.E. 10—Intro. Elect. Eng'g.	2	E.E. 100—Elem. of Elect. Eng'g	4
Engl. 126—Adv. Composition	3	Math. 108—Calculus	4
Math. 107—Calculus	4	M. 101—Statics	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. 111—General Physics	5	Phys. 112—General Physics	5
Speech 11—Public Speaking	3		
	19		18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Econ. 1—Prin. of Economics	3	Econ. 2—Prin. of Economics	3
E.E. 130—D.C. Machinery	3	E.E. 232—A.C. Machinery	4
E.E. 131—D.C. Machinery Lab.	2	E.E. 243—Elect. Calculations	2
E.E. 135—A.C. Theory	3	E.E. 250—Electronics	4
E.E. 136—A.C. Theory Lab	2	M. 102—Mech. of Materials	3
Math. 253—Adv. Applied Math.	3	Elect. (Non-tech.)	3
M. 104—Kinetics	3		
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
E.E. 233—A.C. Machinery	4	C.E. 115—Fluid Mechanics	3
E.E. 252—Electronics	4	E.E. 245—Electric Control	2
E.E. 260—Network Analysis	4	E.E. 284—Transients	3
M.E. 121—Thermodynamics	3	Elect. (Tech.)	6
Elect. (Non-tech.)	3	G. 100—Inspection Trip	Cr.
		G. 190—Law for Engineers	3
	18		17

Non-technical electives must be selected from the following subjects: Languages (6 hrs. min.), Philosophy, Political Science, Psychology, Sociology.

Technical electives may be selected from the following: Advanced Mathematics or Physics, M.E. 125, or any engineering course in the 200 series.

CURRICULUM IN MECHANICAL ENGINEERING

Degree: Bachelor of Science in Mechanical Engineering

The Mechanical Engineering program is designed to mentally develop the student to deal effectively with general engineering problems. Adequate courses in the humanities, social consciousness and communications are provided throughout the four years to insure the development of a well-rounded individual who is capable of assuming a responsible position in society.

The first and second years are primarily devoted to the basic preparatory courses essential to the more technical courses which follow in the third and fourth years.

Basic engineering drawing courses provide a contact with the engineering work during the first year. Theoretical and practical engineering shop courses are taught during the summer following the first year. This is planned to give a fundamental knowledge of machine tools and methods of production.

Courses in mechanism, statics, mechanics of materials, kinetics, dynamics, machine design, thermodynamics and other technical courses provide an opportunity to apply the basic fundamental mathematics, physics and chemistry. Power engineering begins with the course in thermodynamics in the third year and is continued by the courses in heat engines, internal combustion engines, and power plants. A sufficient amount of electrical engineering is given in the third and fourth years to enable the student to handle engineering operations involving electrical problems. Additional electrical engineering courses are available as electives.

Well equipped laboratories, described under *Buildings and Equipment,* are provided to supplement class-room instruction. Experiments and tests conducted under the test codes of the recognized national societies are included in the laboratory work.

Electives are provided in the fourth year that enable the student to specialize in a technical field and to acquire a broader cultural background. The student may specialize in either power or in the industrial field in accordance with his natural inclination. Students interested in the power field pursue courses in steam turbines, heating, ventilating, and air conditioning. Students interested in the industrial field pursue courses in problems of organization and management of industries, motion and time study, quality control, and related subjects.

The curriculum is highly technical yet sufficiently broad to meet the requirements of industry and society. The young graduate ordinarily enters a graduate apprentice

ship in a public utility, a manufacturing or an operating organization where opportunity is provided for his development in research, design, operation, sales, or administration, depending upon his interests and aptitudes.

A student who desires an even broader training in the liberal arts subjects than is provided in the regular four-year curriculum may take a combined bachelor of science and mechanical engineering course. By a careful selection of electives and proper sequence of registration, both degrees may be earned in five years.

FIRST YEAR MECHANICAL ENGINEERING

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
Engl. 1—Comp. and Rhet.	3	Engl. 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	Hist. 53—Modern America	3
Math. 3—College Algebra	3	Math. 5—Analytical Geom.	4
Math. 4—Plane Trig.	3	M.E. 26—Descriptive Geom.	2
M.E. 20—Engineering Drawing	3	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SUMMER SESSION FOLLOWING FIRST YEAR

M.E. 7—Welding and Heat Treatment	1
M.E. 11—Machine Work	2
M.E. 16—Production Methods	2
	5

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Engl. 126—Advanced Comp.	3	Math. 108—Calculus	4
Math. 107—Calculus	4	M. 102—Mech. of Materials	3
M. 101—Statics	3	M.E. 29—Mechanism	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. 111—General Physics	5	Phys. 112—General Physics	5
Speech 11—Public Speaking	3		
	20		17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Econ. 1—Prin. of Economics	3	Econ. 2—Prin of Economics	3
E.E. 105—Electrical Fundamentals	4	E.E. 106—Electrical Machinery	4
Math. 253—Adv. Applied Math.	3	M. 103—Mech. of Materials	3
M.E. 121—Thermodynamics	3	M.E. 122—Mechanical Lab.	1
M. 104—Kinetics	3	M.E. 112—Dynamics of Mach.	3
Pol. Sci. 101—Intro. to Govt.	3	M.E. 125—Heat Engines	3
	19		17

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ch.E. 250—Physical Metallurgy	3	E.E. 174—Ind. App. of Elect. Cont.	3
M.E. 113—Machine Design	3	G. 100—Inspection Trip	Cr.
C.E. 115—Fluid Mechanics	3	G. 190—Law for Engineers	3
M.E. 123—Engineering Lab.	1	M.E. 203—Adv. Machine Design	3
M.E. 223—Steam Power Plants	3	M.E. 228—Engineering Lab.	1
*Elective (Non-tech.)	3	M.E. 229—Int. Comb. Engines	3
†Elective (Tech.)	3	*Elective (Non-tech.)	3
		†Elective (Tech.)	3
	19		19

RECOMMENDED ELECTIVES

*Non-technical electives must be selected from Psychology, Philosophy, Sociology or Languages. (6 hr. min.)

†Technical electives may be selected from M.E. 124, M.E. 140, or any course in the 200 series.

Curriculum in Industrial Engineering Option — Mechanical Engineering

Degree: Bachelor of Science in Mechanical Engineering (Industrial)

Industrial engineering is a relatively new branch of engineering. The industrial engineer must combine his knowledge of engineering principles with everyday manufacturing operations in order that the product be produced in larger and sufficient quantities at a minimum cost. The field of the industrial engineer is that of the process, production and cost expert engaged in planning, organizing, improving, managing, and operating the various processes for producing all kinds of manufactured products.

The purpose of the industrial option is to provide training for those students who are interested in the managerial and technical activities in the engineering field. The option is basically engineering with its foundation in mathematics and the sciences, but the emphasis is upon the human factors and the economic aspects which are essential in engineering work.

There are many new problems challenging industry. Industrial engineers are being called upon more and more to answer this challenge. Their job is to coordinate the man, machines, materials, and methods into a smooth-running organization.

The first and second years are devoted to basic courses in English, mathematics, chemistry, physics, statics, mechanism, drafting and shop practice which are essential to the more technical courses that follow in the third and fourth years.

Industrial engineering includes motion and time study analysis for work simplification and standardization, control of quality and quantity of production through modern mass production methods, establishment of cost standards and reduction of costs through improved methods of manufacture, and technical aspects of personnel management in such activities as job evaluation and wage incentives.

The laboratories provide the student with practice in the various phases of industrial engineering. Facilities are also available for research and development of methods and procedures of manufacture and control.

Besides giving the engineering fundamentals, the industrial option provides for basic course work in the fields of mechanical and electrical engineering. The studies prescribed within the option provide for intensive training in the various branches of industrial engineering. The specialization courses starting in the junior year are planned for progressive instruction in the principles and techniques of industrial engineering as practiced in industry. Additional course work is provided in the field of statistics. Statistics as a tool in industrial engineering has been increasing steadily, its greatest contribution in recent years being in the control of quality of manufactured products by statistical method.

The department annually sponsors an Industrial Engineering Conference. Students are encouraged to attend the meetings and thus are afforded an opportunity of hearing opinions expressed by men of national recognition.

West Virginia has many types of industries in which industrial engineers may be profitably employed. Greater efficiency in operations as well as the expansion of industrial activities in the state will maintain the need for graduates in this ever developing field.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
Engl. 1—Comp. and Rhet.	3	Engl. 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	Math. 5—Analytical Geom.	4
Hist. 53—Modern America OR		M.E. 11—Machine Work	2
M.E. 20—Engineering Drawing	3	M.E. 20—Engineering Drawing OR	
Math. 3—College Algebra	3	Hist. 53—Modern America	3
Math. 4—Plane Trig.	3	Mil. Sci. 2 or Air Sci. 2.	2
Mil. Sci. 1 or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR INDUSTRIAL ENGINEERING

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Econ. 1—Prin. of Economics	3	Econ. 2—Prin. of Economics	3
M. 101—Statics	3	M. 102—Mech. of Materials	3
Math. 107—Calculus	4	Math. 108—Calculus	4
M.E. 26—Descriptive Geom.	2	M.E. 31—Prin. of Industrial Engr.	2
Mil. Sci. 3 or Air Sci. 3	2	Mil. Sci. or Air Sci. 4	2
Phys. 111—Gen. Physics	5	Phys. 112—Gen. Physics	5
	19		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Acct. 1—Prin. of Acct.	3	Ch.E. 250—Physical Metallurgy	3
M. 103—Mech. of Materials	3	E.E.—105—Electrical Fundamentals	4
M.E. 121—Thermodynamics	3	Engl. 126—Advanced Composition	3
M.E. 140—Motion & Time Study	3	M. 104—Kinetics	3
M.E. 144—Engr. Statistics	3	M.E. 122—Mechanical Lab.	1
Speech 11—Public Speaking	3	M.E. 142—Production Control	3
		M.E. 286—Engineering Economy	2
	18		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 115—Fluid Mechanics	3	G. 100—Inspection Trip	Cr.
Econ. 115—Labor Problems	3	G. 190—Law for Engineers	3
M.E. 110—Tool Design	3	M.E. 214—Adv. Analysis of Engr. Data	3
M.E. 150—Industrial Acct.	2	M.E. 292—Plant Layout & Design	3
M.E. 288—Job Evaluation & Wage Inc.	3	M.E. 294—Std. Mfg. Costs	3
M.E. 290—Ind. Statistics	2	Pschy. 115—Psychology of Ind.	3
Elective	3	Elective	2
	19		17

RECOMMENDED ELECTIVES

Econ. 114—Corporation Finance	3	M.E. 211—Ind. Engr. Problems	2
E.E. 106—Electrical Machinery	4	M.E. 250—Heat, Vent., and Air Cond.	3
E.M. 117—Industrial Safety Engr.	3		

THE SCHOOL OF MINES

CURRICULA

Degree: Bachelor of Science in Engineering of Mines

1. Four-year curricula leading to the degree of Bachelor of Science in Engineering of Mines, with options in coal mining engineering and in petroleum and geological engineering.

2. Combined science and engineering curricula extending over five or more years leading to the degrees of Bachelor of Science and Bachelor of Science in Engineering of Mines.

Mining Engineering deals with the exploitation, extraction, marketing and utilization of minerals from within the earth. The role of the mining engineer is quite diversified and there are opportunities for technical specialization in prospecting, development, production, beneficiation, utilization and marketing. Therefore, the mining engineer must be well trained in the fields of mining and geology and also in the principles of civil, electrical and mechanical engineering as applied to the mining industry. With the present trend toward the use of engineers in industrial management and administrative positions the mining engineer's training must also include economics, business, personnel management, and the various humanities.

The basic curricula in mining engineering are devoted to thorough training in mathematics, physics, chemistry, geology, English and economics, together with engineering drawing and surface and underground surveying. Beginning with the third year, provisions are made for specialization in either of the two options.

Summer employment is usually arranged for students desiring it and such work is encouraged.

Mining Engineering: Coal Mining Engineering Option

In this option the professional curriculum includes study of the geology, classification and analysis of coals and the engineering principles of blasting, materials handling, transportation, hoisting, water control, surface and underground systems of mining, roof control, ventilation, coal preparation and structural design. Special consideration is given to the application of mining machinery with particular attention to power transmission, and electric and hydraulic control systems. Special courses in the design of surface and underground mining installations give the students opportunity for expression of the engineering principles developed in preceding phases of the work. The student receives an introduction to the management and social aspects through courses devoted to economic, social, governmental, labor, financial, and safety problems incident to the operation of a mining enterprise.

For those desirous of further or alternate specialization, electives in the fields of metal mining, mineral beneficiation, geology, fuel technology, mine power applications, metallurgy, industrial engineering, and mining economics are offered.

Local coal fields, mines, and preparation plants are used extensively for experimental, instructional and field work.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
Engl. 1—Comp. and Rhet.	3	Engl. 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	Math. 5—Analytical Geom.	4
M.E. 20—Engineering Drawing	3	M.E. 26—Descriptive Geometry	2
Math. 3—College Algebra	3	Hist. 53—Modern American History	3
Math. 4—Plane Trig.	3	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Eng. 126—Advanced Composition	3	Math. 108—Calculus	4
Math. 107—Calculus	4	Phys. 112—General Physics	5
Geol. 1—Physical Geology	3	M. 101—Statics	3
Chem. 10—Quantitative Analysis	2	E.M. 103—Mine Surveying	3
Mil. or Air Sci. 3	2	E.M. 106—Mineralogy	2
Phys. 111—General Physics	5	Mil. or Air Sci. 4	2
	19		19

SUMMER

E.M. 102—Summer Mine Surveying (six weeks) 5

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
E.E. 105—Electrical Fundamentals	4	E.E. 106—Electrical Machinery	4
Econ. 1—Prin. of Economics	3	Econ. 2—Prin. of Economics	3
M. 102—Mechanics of Materials	3	M. 103—Mechanics of Materials	3
E.M. 111—Introductory Mining	2	E.M. 212—Advanced Mining	3
E.M. 107—Mining Methods	4	M.E. 121—Thermodynamics	3
Speech 11—Public Speaking	3	M. 104—Kinetics	3
	19		19

FOURTH YEAR COAL MINING ENG'G.

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 122—Structural Engineering	3	E.M. 223—Mine Management	3
C.E. 115—Fluid Mechanics	3	E.M. 221—Mine Design	3
E.M. 213—Mine Ventilation	3	E.M. 222—Mine Equip. & Mach.	3
E.M. 217—Coal Preparation	4	E.M. 215—Ind. Safety Eng'g	2
E.M. 220—Mine Design	2	G. 190—Law for Engineers	3
Electives	3	Non. Tech. Electives	3
		G. 100—Inspection Trip	Cr.
	18		17

RECOMMENDED TECHNICAL ELECTIVES

E.M. 230—Elem. of Geophysical Prosp.	2	Ch.E 250—Physical Metallurgy	3
E.M. 208—Geol. Surveying	1	Ch.E. 281—Fuel Tech. (Solid Fuels)	3
E.M. 214—Mine Valuation	3	Ch.E. 282—Fuel Tech. (Gaseous and Liquid Fuels)	3
E.M. 218—Adv. Mineral Preparation	3	C.E. 206—Reinforced Concrete	3
E.M. 219—Adv. Mining Methods for Vein Deposits	3	C.E. 207—Foundations	3
E.M. 224—Mining Eng' Problems	1 to 3	M. 200—Adv. Mech. of Materials	3
E.M. 226—Adv. Mining Eqpt. Appl.	3	M.E. 140—Motion and Time Study	3
E.M. 227—Mine Power Applications	2	Geol. 151—Structural Geology	3 or 4
E.M. 228—Mine Equipment and Machinery Controls	3	Geol. 275—Coal Geology	4
		Econ. 115—Labor Problems	3
		Manage. 216—Personnel Management	3

Non-technical electives selected with approval of the student's adviser.

Mining Engineering: Petroleum and Geological Engineering Option

This option is planned to meet the needs of the student specializing in petroleum engineering and for those especially interested in the geological aspects of mining engineering.

The petroleum engineer must be well versed in the identification and interpretation of geologic features related to the occurrence and recovery of oil and natural gas. The study of geology is emphasized in the petroleum and geologic curriculum and is supplemented by thorough treatment of the engineering principles related to the development, production, transportation, marketing and utilization of oil and natural gas. Local production and gas storage fields, secondary recovery projects, compressor stations and refineries provide excellent opportunity for field study and the petroleum engineering laboratories are particularly well equipped.

There is a growing demand for the mining geologist with thorough training in the fundamentals of engineering in general and mining engineering in particular who is especially qualified to analyze the geologic features of a mining property as related to valuation and development methods. Opportunities for the mining geologist are offered by mining companies, equipment manufacturers, the various state and federal agencies, and by business organizations having a secondary interest in mineral resources, as investment houses, railroads, and chemical producers.

The fundamentals of engineering are combined with the study of geology throughout the curriculum. The geology courses prescribed for the petroleum program treat the origin, properties, accumulation and geographic distribution of oil and natural gas. Related courses in oil and gas production, core analysis, oil refining, petroleum engineering design and petroleum property management deal with the chemical and physical properties of oil and natural gas, their extraction and subsequent processing, and the valuation of petroleum properties and marketing. An introductory course in geophysical methods as applied to prospecting for oil and natural gas included in the basic curriculum acquaints the student with the equipment, methods, and calculations used and gives opportunity for field practice with the various instruments and devices employed. The problems of natural gas measurement and distribution are particularly stressed and special laboratories for that phase of the work are provided. The fundamentals of mining engineering are offered beginning with the third year of study for students interested in the mining geology aspects.

Supplemental courses in English, public speaking, history, economics and business law provide for a well-balanced educational program that equips the graduate for engineering careers in both technical and administrative fields.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
Engl. 1—Comp. and Rhet.	3	Engl. 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	Math. 5—Analytical Geom.	4
M.E. 20—Engineering Drawing	3	M.E. 26—Descriptive Geom.	2
Math. 3—College Algebra	3	Hist. 53—Modern American History	3
Math. 4—Plane Trig.	3	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Phys. 111—General Physics	5	Phys. 112—General Physics	5
Math. 107—Calculus	4	Math. 108—Calculus	4
Chem. 15—Quantitative Analysis	3	E.M. 106—Mineralogy	2
Geol. 1—General Geology	3	M. 101—Statics	3
Geol. 2—General Geology Lab.	1	E.M. 103—Mine Surveying	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	18		19

SUMMER

E.M. 102—Summer Mine Surveying (six weeks) 5

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233—Organic Chem.	4	E.M. 204—Oil & Gas Production	4
Geol. 3—Historical Geology	3	Econ. 2—Prin. of Economics	3
Geol. 4—Historical Geology Lab.	1	Speech 11—Public Speaking	3
Econ. 1—Prin. of Economics	3	M. 104—Kinetics	3
Engl. 126—Advanced Composition	3	M. 103—Mechanics of Materials	3
M. 102—Mechanics of Materials	3	G. 190—Law for Engineers	3
E.M. 201—Oil Field Development	2		
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
E.M. 216—Petroleum Eng'g Design	2	C.E. 115—Fluid Mechanics	3
Ch.E. 286—Petroleum Technology	2	E.M. 232—Petroleum Reservoir Eng'g	2
E.E. 105—Elements of E.E.	4	Geol. 272—Petroleum Geology	3
M.E. 121—Thermodynamics	3	E.M. 205—Gas Measurement Eng'g	2
Geol. 151—Structural Geology	3	Geol. 161—Field Geology	3
Electives	3	E.M. 208—Geological Surveying	1
		E.M. 203—Petroleum Property Val. and Management	2
		Electives (Non-tech.)	3
		G. 100—Inspection Trip	Cr.
	17		19

RECOMMENDED ELECTIVES (PETROLEUM ENG'G)

E.M. 207—Introductory Seismology 1
E.M. 230—Elem. of Geophysical Prosp. . 2
E.M. 231—Geophysical Prosp. Lab. ... 1
E.M. 212—Adv. Mining 3
E.M. 214—Mine Valuation 3
E.M. 206—Elem. of Geo. Prosp. .. 2 or 3
E.M. 215—Ind. Safety Eng'g 2
E.M. 219—Adv. Mining Methods for Vein Deposits 3
Ch.E. 150—Physical Metallurgy 3
E.M. 224—Mining Eng'g Problems . 1 to 3
Ch.E. 281—Fuel Tech. (Solid Fuels) .. 3
Ch.E. 282—Fuel Tech. (Gaseous and Liquid Fuels) 3
Geol. 170—Nat. Resources and Geology of W.Va. ..... 2 or 3
Geol. 172—Econ. Geol. (Non-Met.) 3
Geol. 271—Econ. Geol.: Ore Deposits .. 3
C.E. 206—Reinforced Concrete 3
M.E. 270—Industrial Lubrication 3
Econ. 115—Labor Problems 3
M. 200—Adv. Mech. of Materials 3

Non-technical electives selected with approval of the student's adviser.

FIVE YEAR CURRICULA

Degrees: Bachelor of Science in conjunction with a degree in engineering or mining engineering.

These curricula are designed to meet the needs of students who wish to receive a broader training than is provided in the four-year program. They also enable the student to take lighter schedules than are required in the four-year curricula.

(A) Requirements for the degree of Bachelor of Science, to be conferred at the end of the fourth year, where the student's grade point average is 2.5 or over, or at the time of the conferring of the engineering degree where the grade point average is below 2.5.
  (1) The requirements of the first three years of any four-year engineering curriculum.
  (2) a. Twelve semester hours of one foreign language, where no secondary school entrance credits have been alowed, or
  b. Six semester hours at intermediate level, where two units of entrance credits have been allowed in the same foreign language.
  (3) Electives from the following groups, amounting to six semester hours where (2a) applies and twelve semester hours where (2b) applies.
  a. Not more than three hours each of English, history, and speech.
  b. Not more than six hours each in any one or more of the following groups: foreign language (other than specified above); journalism; commerce; political sciences; and philosophy, psychology, and sociology.

(B) Requirements for the Bachelor of Science degree in engineering or in mining engineering, to be conferred on completion of the work of the fifth year.

GRADUATE CURRICULA

Graduate work leading to the degree of Master of Science in Engineering is offered in all departments. In certain departments courses leading to the degree of Doctor of Philosophy are also offered. The student who plans to pursue graduate work is directed to the courses as outlined in the Graduate School section of the *Catalog*. Students within ten semester hours of graduation may petition the Dean of the Graduate School and receive credit towards a Master's degree for work taken beyond the requirements for the Bachelor degree.

SPECIAL ENGINEERING CURRICULA

1. *Elective Groups for Students in Other Colleges.* Candidates for degrees other than engineering degrees and special students in any department of the University are permitted to elect subjects in the College of Engineering and the School of Mines, provided, in each case, they have had the subjects specified as prerequisites. Students who wish to take a general classical or scientific course of study before taking the engineering curriculum are advised to carry their mathematics as far as called for by the engineering curriculum, and to take some of their elective work in the College of Engineering.

2. *Partial Curriculum.* Students who have not the time or are otherwise unable to take full curriculum will be allowed to take a special or partial cur-

riculum, consisting of such studies as they are prepared to take, provided such curriculum shall have been approved by the adviser. For further information see statement of requirements for admission as special students.

PROFESSIONAL DEGREES

The University confers the following professional degrees: Aeronautical Engineer (A.E.), Chemical Engineer (Ch.E.), Civil Engineer (C.E.), Electrical Engineer (E.E.), Mechanical Engineer (M.E.), and Engineer of Mines (E.M.), upon graduates of the College of Engineering and of the School of Mines of West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis, and oral final examination.

To be eligible, a candidate for a professional degree must have been in active practice of his profession for at least five years since receiving his first degree, and must have been in responsible charge of important work for at least two years.

Application for registration as a candidate for a degree should be made not later than October 1 in the year in which the degree is expected. Detailed regulations and registration blanks may be obtained from the Dean of the College of Engineering or the Director of the School of Mines.

COURSES OF INSTRUCTION

AERONAUTICAL ENGINEERING

Professor SELTZER and Assistant Professor ULRICH.

Undergraduate Division

A.E.

116. AIRCRAFT DETAIL DESIGN. II. 2 hr. PR: M.E. 26. Detail drawing of airplane components. Use of Aircraft Standards and drafting procedure. Development of contoured surfaces and projections. Methods of production and fabrication. 6 hr. lab. Mr. Ulrich

201. ELEMENTARY AERODYNAMICS. I. 3 hr. PR: M. 101, Physics 111 or equivalent. Physical properties of air, airfoils, effect of planform, induced drag, parasite drag. Engine characteristics, propellers. Airplane performance at sea level and altitude. 3 hr. rec. Mr. Seltzer

202. AERODYNAMICS. II. 3 hr. PR: Math. 253, A.E. 201, and C.E. 115, (or conc.) Steady flow of incompressible and compressible fluids, dimensional analysis, viscous flow. Stream functions of two dimensional ideal flows, boundary layer theory. 3 hr. rec. Mr. Seltzer

203. APPLIED AERODYNAMICS. II. 3 hr. PR: A.E. 202. Chordwise and spanwise air-load distribution for plain wings, wings with aerodynamic and geometric twist, wings with deflected flaps, and wings with ailerons deflected. Section induced drag characteristics. 3 hr. rec. Mr. Seltzer

205. EXPERIMENTAL AERODYNAMICS. II. 2 hr. PR: A.E. 202. Wind tunnel testing methods and equipment and wind tunnel boundary corrections. Experiments include: Yaw characteristics of Pitot-static tubes, pressure distribution on wings and circular cylinders, boundary layer determination, determination of wind tunnel turbulence, force tests of wings and airplane models, stability and performance determination and corrections for scale effect. 1 hr. lec., 3 hr. lab. Mr. Seltzer

207. AERODYNAMIC DESIGN. I. 3 hr. PR: A.E. 209. Preliminary design of aircraft. Inboard profiles, design, weight and balance calculations; three view drawings. Airplanes are designed to specification with respect to performance and stability. 1 hr. lec., 6 hr. lab. Staff

208. FLIGHT TESTING. I, II. 2 hr. PR: A.E. 209. Flight test theory and practice. Data on stability and performance taken in Cessna 170A airplane. Flight test data reduction practice. 1 hr. lec., 3 hr. lab. Mr. Seltzer

209. Aircraft Performance and Stability. II. 3 hr. PR: A.E. 201. Effect of superchargers and constant speed propellers on airplane performance. Performance analysis by chart methods. Gas turbine-jet airplane performance. Helicopter performance. 3 hr. lec. Mr. Seltzer

210. Basic Aircraft Structures. II. 3 hr. PR. M. 103. Design of elementary structural forms, truss analysis and use of thin sheet in aircraft. Deflections by Virtual Work. Least Work and Williot Diagram. 3 hr. lec. Mr. Ulrich

211. Redundant Aircraft Structures. I. 3 hr. PR: A.E. 210 or equivalent. Continuation of A.E. 210. Analysis and design of statically indeterminate structures used in aircraft. Design for achieving high strength/weight ratios. 3 hr. lec. Mr. Ulrich

212. Applied Aircraft Design. II. 3 hr. PR: A.E. 207 and A.E. 211. Structural design of airframe members to C.A.A. requirements. The work is performed on the airplane designed in A.E. 207 during the previous semester. Layout and detail design of specified components are required. 6 hr. lab. Staff

213. Aircraft Structures Laboratory. I. 1 hr. PR: A.E. 211. Strength tests of aircraft materials, airplane center of gravity determination, static test of airplane ribs, bending and torsion of shell structures, inspection by Magnaflux, compression tests of thin-walled structures. 3 hr. lab. Mr. Ulrich

214. Advanced Aircraft Structures. II. 3 hr. PR: A.E. 211. Incomplete tension fields, critical loads, torsional column failure, instability of flat sheets, cylindrical structures. 3 hr. rec. Mr. Ulrich

217. Aircraft Structural Design. I. 3 hr. PR: M. 103. Analysis and detail design of simple fittings, beams, welded structures, forgings, castings. Methods of production and fabrication. 1 hr. lec., 6 hr. lab. Mr. Ulrich

218. Aeroelasticity. I. 3 hr. PR: A.E. 210. The study of vibrating systems of single degree and multiple degrees of freedom, flutter theory and modes of vibration, wing torsional divergence and aileron reversal. 3 hr. lec. Mr. Ulrich

220. Seminar. I, II. 2-6 hr. PR: Senior standing and permission of the instructor. Special material and projects. Staff

222. Aircraft Propulsion. I, II. 2 hr. PR: A.E. 201, M.E. 121, M.E. 229. Propeller theory, constant speed propellers. Basic requirements of propulsion systems, utilization of available energy, fuels, charge handling, combustion, performance, turbine engine characteristics. 2 hr. lec. Mr. Ulrich

280. Aeronautical Problems. I, II. 1-3 hr. Upper division and graduate. Staff

299. Thesis. I, II. 2-6 hr. PR: Senior standing and permission of the instructor. Staff

AVIATION

Professor Seltzer and Flight Supervisor Henry; Flight Instructors Bennett and Jamison

Undergraduate Division

*170. Aviation Ground School. I, II, S. 2 hr. Nomenclature of aircraft, civil air regulations, navigation, meteorology, and aircraft engines. Staff

*171. Flight Training. I, II, S. 1 hr. Beginning flight instruction and training consisting of 20 hours of flight time. The student will have approximately 12 hours of dual and 8 hours of solo flying in this course. Special flight fee $100, payable at registration. Staff

*172. Flight Training. I, II, S. 1 hr. Continuation of A.E. 171, consisting of 20 hours flight time. This course, together with A.E. 171, should enable a student to obtain the required flight time and necessary experience to prepare him for a C.A.A. private pilot's examination. Special flight fee of $100, payable at registration. Staff

*173. Advanced Flight Training. I, II, S. 1 hr. Twenty hours flight training of an advanced nature, including radio and instrument navigation and procedures and advanced cross-country flying. Link Instrument Trainer instruction may be taken concurrently. Flight instruction given in Cessna airplanes. Special flight fee of $100, payable at registration. Staff

*175. Advanced Flight Training. I, II, S. 1 hr. Continuation of A.E. 173. Consisting of 20 hours of flight time. Special flight fee of $100, payable at registration. Staff

*176. Advanced Flight Training. I, II, S. 1 hr. Continuation of A.E. 175. Consisting of 20 hours of flight time. Special flight fee of $100, payable at registration. Staff

*177. Advanced Flight Training. I, II, S. 1 hr. Consisting of 20 hours of flight time. Special flight fee of $100, payable at registration. Staff

AGRICULTURAL ENGINEERING

Professor Longhouse; Associate Professor Dickerson; Assistant Professor Phillips; Instructors Bane and Elliott.

Undergraduate Division

Ag.E.

10. Introductory Agriclutural Engineering I. 3 hr. A general course introducing the several fields of Agricultural Engineering and where they are applied in Agriculture and Industry. 3 hr. rec. Mr. Longhouse

100. Farm Structures. II. 3 hr. PR: M. 102. Structural design and functional requirements of farm service buildings. 2 hr. rec., 3 hr. lab. Mr. Longhouse and Mr. Elliott

110. Application of Electricity to Agriculture. I. 3 hr. PR: E.E. 106. Economic application of electric light, heat, and power. 2 hr. rec., 3 hr. lab. Mr. Bane

140. Soil and Water Conservation. I. 3 hr. PR: C.E. 115. Engineering principles and practices in conservation, utilization, and management of soil and water resources. 2 hr. rec., 3 hr. lab. Mr. Dickerson

180, 181. Assigned Topics. I, II. 1-4 hr. per semester. For juniors and seniors. Staff

190. Farm Machinery II. 3 hr. PR: M.E. 113. Construction, operation, adjustment, and testing of farm machines. 2 hr. rec., 3 hr. lab. Mr. Phillips

230. Farm Power. I. 4 hr. PR: M.E. 121. Fundamental theories underlying design and operation of internal combustion engines used in agriculture. 3 hr. rec. 3 hr. lab. Mr. Longhouse and Mr. Elliott

Graduate Division

320, 321. Special Topics. I, II, S. 1-6 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

397. Research. I and II. 1-6 hr. Staff

CHEMICAL ENGINEERING

Professors Koehler, Fairbanks, and Simons; Associate Professor P. R. Jones; Assistant Professor Kapnicky; Instructors Galli and Wen; Lecturer Sebastian.

Undergraduate Division

Ch. E.

*140. Chemical Engineering Calculations. I. 2 hr. PR: Chem. 2 and Math. 3. Industrial stoichiometry; industrial calculations involving material and energy balances. 2 hr. rec. Mr. Kapnicky

*Courses may be taken as undergraduate work by students in colleges other than the College of Engineering.

160. Elements of Ceramics. I, II. 3 hr. PR: Chem. 15. Ceramic raw materials, body preparation, forming, drying and firing. Physical and chemical properties of ceramic products. 3 hr. rec. Mr. Jones

161. Ceramic Laboratory. I, II. 1 hr. PR or conc: Ch.E. 160. Measurement of physical and chemical properties of ceramic material in the plastic, dry and fused states. 3 hr. lab. Mr. Jones

186. Oil Laboratory. II. 1 hr. PR: Chem 6 or 15. Standard petroleum laboratory testing methods and procedures. Primarily for students taking Petroleum and Natural-gas Option. 3 hr. lab. Mr. Galli

*200. Chemical Engineering Operations. I, II, S. 2 hr. An introduction to the various operations and equipment used in the chemical engineering industries. Primarily for chemistry majors. 2 hr. rec. Mr. Koehler

205. Principles of Chemical Engineering. I. 5 hr. PR or conc: Chem. 260. Theory and application of the unit operations of chemical engineering. 3 hr. rec., 6 hr. calc. lab. Mr. Simons and Mr. Galli

207. Principles of Chemical Engineering. II. 5 hr. Continuation of Ch.E. 205. 3 hr. rec., 6 hr. calc. lab. Mr. Simons and Mr. Galli

211, 212. Chemical Engineering Laboratory. I, II, S. 2 hr. PR: Ch.E. 207. Experimental work in the unit operations; practice in writing engineering reports. 6 hr. lab. Mr. Koehler and Mr. Wen

224. Unit Organic Processes. II. 3 hr. PR: Chem. 238 and Ch.E. 207. Unit processes involved in the synthetic organic chemicals industries. 3 hr. rec. Mr. Simons

*234. Chemical Technology. I, S. 2 hr. A survey of some of the manufacturing procedures employed in the process industries, including theory, equipment and economics. 2 hr. rec. Mr. Galli

*235. Chemical Technology. II, S., 2 hr. Similar to Ch.E. 234. 2 hr. rec. Mr. Galli

*238. Electrochemistry and Corrosion. I, II. 2 hr. PR: Chem. 2 and PR or conc: E.E. 105 or Chem. 260. Review of theoretical electrochemistry followed by a study of the underlying principles of several selected electrochemical industrial processes and how their principles have influenced design and operation. Approximately a quarter of the course is devoted to the electrochemical theory of corrosion and corrosion prevention. 2 hr. rec. Those desiring laboratory work should register in Ch.E. 280 for 1 hr. Mr. Koehler

242. Chemical Engineering Thermodynamics. I. 3 hr. PR: Ch.E. 140 and Chem. 261. Applications of themodynamics to chemical engineering; relationships between the fundamental and thermodynamic functions; thermodynamic transformations. 3 hr. rec. Mr. Jones

243. Chemical Engineering Thermodynamics. II. 3 hr. PR: Ch.E. 242. Applications of thermodynamics to non-ideal gases; construction of thermodynamic diagrams; mechanical work in non-ideal systems; fugacity, activity, and chemical potential; chemical reaction equilibria; physical equilibria. 3 hr. rec. Mr. Jones

*250. Physical Metallurgy. I, II. 3 hr. PR: Phys. 112. Includes the principles of process metallurgy, plastic deformation, heat treating and alloying. 3 hr. rec. Mr. Fairbanks

*251. Metallography. I, II. 2 hr. PR or conc: Ch.E. 250. Preparation of ferrous and non-ferrous samples of micro-photography, heat treating, carburizing, physical testing and X-ray studies of metals. 1 hr. rec., 3 hr. lab. Mr. Fairbanks

*252. Ferrous Metallurgy. I. 2 hr. PR: Phys. 112. The making, shaping, alloying, and heat treating of steel. 2 hr. rec. Mr. Fairbanks

*253. Nonferrous Metallurgy. II. 2 hr. PR: Phys. 112. Nature of ores, beneficiation smelting, refining, alloying, uses, heat treating, and properties of the major nonferrous metals. 2 hr. rec. Mr. Fairbanks

255. Metallurgical Calculations. II. 2 hr. PR: Ch.E. 250. Material and heat balances, charge, heat transfer and power calculations, and cost analysis. 2 hr. rec. Mr. Fairbanks

261. Ceramics. I, II. 3 hr. PR: Ch.E. 160. Body and glaze calculations. Compositions and properties of whitewares. 2 hr. rec., 3 hr. lab. Mr. Jones

262. Refractories. I. 2 hr. PR: Ch.E. 160. Manufacture, properties, uses, of standard tests and phase diagrams of refractory materials. 2 hr. rec. Mr. Jones

*263. Glass. II. 2 hr. PR or conc: Chem. 15. Physical and chemical properties of glass. Methods of analysis of glass and raw materials. Theory and practice of manufacture. 2 hr. rec. Mr. Jones

264. Enamels, Glazes, and Colors. II. 3 hr. PR or conc: Ch.E. 261. Preparation and application of enamels, glazes, and colors. Physical tests and detailed study of problems. 1 hr. rec., 6 hr. lab. Mr. Jones

269. X-ray Diffraction. I, II. 2 hr. The theory of X-ray diffraction ad application to the analysis of crystalline materials using the powder camera and X-ray diffractometer. Open to advanced students in geology, chemistry, engineering, and related fields with permission of the instructor. 1 hr. rec., 3 hr. lab. Mr. Jones

272. Chemical Engineering Design. I. 3 hr. PR: Ch.E. 207, M. 102 and Econ. 2. Design of process equipment from economic, chemical and engineering considerations. Study of plant location and layout. 2 hr. rec., 3 hr. lab. Mr. Simons

273. Chemical Engineering Design. II. 3 hr. Continuation of Ch.E. 272. 2 hr. rec., 3 hr. lab. Mr. Simons

280. Chemical Engineering Problems. 1-6 hr. For junior, senior and graduate students. Staff

*281. Fuel Technology. I. 2 hr. PR: Chem. 15. Technology of solid fuels. Classification and reserves. Analysis and testing. Origin, occurrence, composition, and properties. Mining and methods of manufacture. Principles of carbonization, gasification, and combustion. Fuel engineering calculations. Nucleonic fuels and their use in nuclear power plants. Economic aspects. 2 hr. rec. Those desiring laboratory work will register in Ch.E. 280 for 1 hr. Mr. Sebastian and Mr. Jones

*282. Fuel Technology. II. 2 hr. PR: Ch.E. 281. Technology of gaseous and liquid fuels. Classification and reserves. Analysis and testing. Origin, occurrence, composition, and properties. Methods of production. Natural gas and petroleum. Refining and cracking process. Manufactured fuel gases. Storage and transmission. Combustion processes and burner design. Gasification and combustion calculations. 2 hr. rec. Those desiring laboratory will register in Ch.E. 280 for 1 hr. Mr. Sebastian and Mr. Jones

284. Industrial Instrumentation and Control. I, II, S. 3 hr. PR: Math. 108. Discussion of process characteristics, theory and application of measuring means. Theory, modes and application of automatic control. Selection and characteristics of final control elements. 3 hr. rec. Mr. Galli

286. Petroleum Technology. I. 2 hr. PR: Chem 233. Discussion of crude oil desalting, distillation, natural gasoline recovery, thermal and catalytic cracking, solvent refining, dewaxing, filtration, blending and compounding of petroleum products. 2 hr. rec. Mr. Galli

290. Introductory Nuclear Engineering. I. 3 hr. PR: Phys. 112. Includes elementary atomic physics necessary for an understanding of nuclear engineering. Design and operation of nuclear reactors, shielding, instrumentation, health physics, fuel reprocessing, uses of radioactive isotopes, electrical power from nuclear fuels, nuclear propulsion. 3 hr. rec. Mr. Kapnicky

297, 298. Thesis. I, II. 2-5 hr. A problem in chemical engineering or industrial chemistry is selected for investigation. A carefully prepared report is required. Open only to qualified seniors. 6-15 hr. lab. Staff

Graduate Division

300. Seminar. I, II, S. 1-6 hr. Hours to be arranged. Staff

304. Advanced Unit Operations: Mass Transfer. I, II, S. 2-5 hr. PR: Ch.E. 207 and 243. Advanced theory and laboratory work in the diffusional operations including absorption and extraction in their various aspects. 2 hr. rec., 0-9 hr. lab. Mr. Kapnicky

305. Advanced Unit Operations: Drying. I, II, S. 2-5 hr. PR: Ch.E. 207. Advanced study of psychrometric principles and the various drying theories. 2 hr. rec., 0-9 hr. lab. Mr. Koehler

306. Advanced Unit Operations: Heat Transfer. I, II, S. 2-5 hr. PR: Ch.E. 207. Same as Ch.E. 304, but dealing with heat transfer, evaporation, and crystallization. 2 hr. rec., 0-9 hr. lab. Mr. Simons

307. Advanced Unit Operations: Distillation. I, II, S. 2-5 hr. PR: Ch.E. 207. Advanced study of vaporization principles of separation of liquid mixtures, steam, batch, continuous, azeotropic, extractive and molecular distillation. 2 hr. rec., 0-9 hr. lab. Mr. Galli

323, 324. Advanced Unit Processes. I, II, S. 2-5 hr. PR: Chem. 238 and Ch.E. 207. Advanced study of the unit processes with application to process development. 2 hr. rec., 0-9 hr. lab. Mr. Simons

*340. Phase Equilibria. I, II, S. 2 hr. PR: Chem. 261. Interpretation, construction and applications of one, two, and three-component diagrams; applications of the phase rule. 2 hr. rec. Mr. Koehler

344. Advanced Chemical Engineering Thermodynamics. I, II, S. 3 hr. PR: Ch.E. 243. Review of thermodynamic transformations, use of Jacobians; advanced applications to chemical and physical equilibria; development and applications of phase rule; equilibria diagrams for non-ideal systems; determination and use of activity coefficients; methods of estimating thermodynamic functions; introduction to statistical mechanics. 3 hr. rec. Mr. Kapnicky

345. Chemical Engineering Kinetics. I, II, S. 3 hr. PR: Ch.E. 243. Applications of chemical kinetics to industrial reactor design; review of physical chemical principles; theories of reactions, design of batch and flow reactors; theories of catalysis; reaction mechanisms; data interpretation; applications to design of catalytic reactors; effects of diffusion on catalytic reactions. 3 hr. rec. Mr. Kapnicky

*350. Advanced Physical Metallurgy. I. 3 hr. PR: Ch.E. 250. Includes crystallization, plastic deformation and constitutional diagrams. 3 hr. rec. Mr. Fairbanks

*351. Advanced Metallography Laboratory. I, II. 3 hr. PR: Ch.E. 251. Includes a study of slip bands, precipitation hardening. isothermal transformation of austenite, hardenability, powder metallurgy and crystallography. 9 hr. lab. Mr. Fairbanks

352. Advanced Ferrous Metallurgy. I. 3 hr. PR: Ch.E. 252. Recent developments in making, shaping, alloying, and heat treating of steel. 3 hr. rec. Mr. Fairbanks

353. Advanced Nonferrous Metallurgy. II. 3 hr. PR: Ch.E. 253. Recent developments in beneficiation, reduction, refining, alloying, and heat treating of nonferrous metals. 3 hr. rec. Mr. Fairbanks

354. Adv. Physical Metallurgy. II. 3 hr. Continuation of Ch.E. 350. Includes principles of heat treating, alloying and metal fabricating. 3 hr. rec. Mr. Fairbanks

355. Advanced Metallurgical Calculations. II. 3 hr. PR: Ch.E. 243. Comprehensive problems on metallurgical processes. Mr. Fairbanks

360. Advanced Ceramic Technology. I, II. 3 hr. PR: Ch.E. 161. Special ceramic bodies including high temperature porcelains and high frequency insulators. 3 hr. rec. Mr. Jones

361. Advanced Ceramic Laboratory. I, II. 2 hr. PR or conc: Ch.E. 360. X-ray analysis, measurements of mechanical, electrical and chemical properties of ceramic materials. Special forming methods. Mr. Jones

372. Advanced Chemical Engineering Design. I, II, S. 2-5 hr. PR: Ch.E. 273. Critical discussion of and practice in equipment-design methods. 2 hr. rec., 0-9 hr. lab. Mr. Simons

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per semester, maximum credit 2 hr. In cooperation with other departments and the Bureau of Mines. 1 hr. rec. Mr. Koehler

381. Advanced Fuel Engineering. I. 3 hr. PR: Ch.E. 282. 3 hr. rec. Mr. Koehler

397. Research. I, II, S. PR: Ch. E. 207 and 212. 1-6 hr. Suitable problem in chemical engineering, metallurgy, ceramics, or fuels is selected for investigation. Mr. Koehler and Staff

CIVIL ENGINEERING

Professors Baker and Speiden; Assistant Professor Burchinal; Instructors Duncan and Linton

Undergraduate Division

C.E.

*1. Surveying. II. 2 hr. PR: Math. 4. For non-civil engineering students. Elementary theory of measurement of distance, direction and difference in elevation. Field work with transit, tape, level, stadia and plane table. Office computations and plotting. 1 hr. rec., 3 hr. lab. Mr. Duncan

*2. Surveying. I. 4 hr. PR: Math. 4. Instruments and methods for measurement of distance, direction, and difference in elevation; stadia, topographic, and land surveying; traverse and area calculations; map plotting. 3 hr. rec., 3 hr. lab. Mr. Burchinal

*3. Route Surveying. II. 2 hr. PR: C.E. 2. Simple, compound, reversed, and spiral curves; vertical curves; cross-sectioning; slope-stake setting. 2 hr. rec. Mr. Burchinal

*5. Land Surveying. I. 4 hr. PR: Math. 10. Primarily for forestry students. Theory and practice with compass, transit, level, stadia, and plane table; computations of area; astronomical observations; map plotting. 2 hr. rec., 6 hr. lab. Staff

*6. Topographic Mapping. II. 2 hr. PR: C.E. 5. Primarily for forestry students Topographic maps; surveys for roads and property lines; U.S. Public Land Surveys; practice in lettering, plotting and inking of topographic maps. 1 hr. rec., 3 hr. lab. Staff

104. Summer Surveying. S. (5 weeks). 5 hr. PR: C.E. 3. Field practice and further theory in topographic, hydrographic, route, plane table and land surveys, bench mark levels, triangulation; astronomical observations; computations and map plotting. Mr. Linton

105. Highway Engineering. II. 4 hr. PR: C.E. 104. Highway administration, economics and finance; planning and design; subgrade soils and drainage; construction and maintenance. Design of a highway. Center line and grade projections, earthwork and cost estimate. 2 hr. rec., 6 hr. lab. Mr. Baker

106. Railway Engineering. I. 3 hr. PR: C.E. 104. Development and importance of the railroad industry. Principles of location, operation, maintenance and construction. 3 hr. rec. Mr. Baker

115. Fluid Mechanics. I, II, S. 3 hr. PR or Conc: M. 104. Fluid statics, laminar and turbulent flow of compressible and incompressible fluids, flow measurements, open channel flow, and kinetics of fluids. 3 hr. rec. Staff

*117. Municipal Engineering. I. 2 hr. PR: C.E. 115. Required for Sanitary Engineering option. Water supply and treatment of sewage, collection and disposal of garbage and rubbish; insect and rodent control; milk and food sanitation; industrial hygiene; swimming pool sanitation. 2 hr. rec. Mr. Speiden

*120. Engineering Materials. II. 2 hr. PR: M. 103. Properties and economic use of various materials used in engineering. 2 hr. rec. Mr. Baker

121. Structural Analysis. II. 3 hr. PR: M. 102. Stresses in bridge and roof trusses graphically and analytically; dead loads, panel loads, highway loads; influence lines; beams and girders; riveted and welded connections. 2 hr. rec., 3 hr. computation. Staff

122. Structural Engineering. I. 3 hr. PR: M. 102. For non-civil engineering students. Stresses in trusses under dead and live load; beams and girders; riveted and welded connections. Design of structural elements. 2 hr. rec., 3 hr. computation and design. Staff

123. Structural Design. I. 3 hr. PR: C.E. 121. Design of steel and timber structures. Cost estimates. 9 hr. computation. Staff

124. Thesis. I, II. 2 to 4 hr. Special design, investigation or original research on an assigned topic relating to Civil Engineering. Staff

130. Water Supply and Sewerage. I. 5 hr. PR: C.E. 115. Required quantity and quality of water supplies, sources, treatment, pumping and distribution of water. Uniform and non-uniform flow in open channels; rainfall and runoff; separate and combined sewers; design of a sewer system. 4 hr. rec., 3 hr. computation. Mr. Speiden

200. Water-Power Engineering. II. 2 hr. PR: C.E. 115. Flow and power of streams; power loads; storage required; design of a high masonry dam; hydraulics of turbines; turbine characteristics; appurtenances. Mr. Speiden

201. Hydraulic Measurements. I, II. 2 hr. PR or conc: C.E. 115. Calibration of gages, meters, orifices and weirs; pipe friction; loss in bends; impulse turbines; flow in open channels. 6 hr. lab. Staff

202. Water Purification. I. 3 or 4 hr. PR or Conc.: C.E. 130. Slow and rapid sand filtration; coagulation; disinfection; softening; corrosion control; specifications for filter sand and water works chemicals; physical and chemical characteristics of water; bacterial quality. 1 hr. rec. and 6 hr. lab. for 3 hr. cr. In addition to the above the design of elements of a rapid sand filter plant 3 hr. lab. Total of 4 hr. cr. Mr. Speiden

203. Sewage Disposal. II. 3 hr. PR: C.E. 115. Characteristics of sewage; dilution; irrigation; screening; sedimentation; oxidation; chlorination; digestion and disposal of sludge; activated sludge process; industrial wastes. 2 hr. rec., 3 hr. lab. Mr. Speiden

204. Advanced Structures. II. 3 hr. PR. C.E. 121. Deflections of trusses and girders by auxiliary load of unity, Castigliano's Theorem, Williot diagram, elastic curve and moment area methods; cantilever bridges; two and three hinged arches; continuous spans; swing bridges; suspension bridges. 3 hr. rec. Staff

206. Reinforced Concrete. II. 3 hr. PR: C.E. 121. Rectangular beams; single and double reinforcement; T-Beams; columns; combined bending and thrust: footings; concrete building bay; arch for highway bridge. 1 hr. rec., 6 hr. lab. Staff

207. Foundations. I. 3 hr. PR: C.E. 121. Soil mechanics; piles; cofferdams; cassions; piers; abutments; spread footings; underpinning; retaining walls. 2 hr. rec. 3 hr. lab. Staff

208. Transportation Economics. II. 2 hr. PR: C.E. 105. PR or Conc: C.E. 106. The economic aspects of transportation based on engineering principles. Highways, railways, waterways, airways and pipe lines—their competitive natures, costs, government aid and regulation. 2 hr. rec. Mr. Baker

209. Highway Materials Laboratory. II. 2 hr. PR: M. 103. Testing of highway materials for compliance with specifications in the State Road Commission's Material Testing Laboratory. 6 hr. lab. Staff

210. Photogrammetry. I. 2 hr. PR: C.E. 104. Geometry and interpretation of the aerial photograph; flight planning; radial-line control; principles of stereoscopy; plotting instruments. 1 hr. rec., 3 hr. lab. Mr. Baker

211. Geodesy. II. 3 hr. PR: C.E. 104 and Math. 108. Precise base line measurements, triangulation and leveling, geodetic astronomy; figure of the earth, map projections; rectangular coordinate systems; least squares adjustment; gravity. Mr. Baker

280. Civil Problems. II. 1-4 hr. For junior, senior and graduate students. Staff

Graduate Division

351. Advanced Water-Supply Engineering. I, II. 2-6 hr. PR: C.E. 130. A detailed study of specific problems concerning the collection, treatment or distribution of water. Mr. Speiden

352. Sewerage and Sewage Disposal. I, II. 2-6 hr. PR: C.E. 130. Special problems involved in the structural or hydraulic design of sewers or in the treatment and disposal of sewage or industrial wastes. Mr. Speiden

353. Advanced Design Problems. I, II. 2-6 hr. A design or investigation of any assigned problem related to civil engineernig. Mr. Baker or Mr. Speiden

354. Statically Indeterminate Structures. I, II. 2-6 hr. PR: C.E. 204. Design or investigation of structures statically indeterminate in one or more aspects. Moment distribution. Staff

355. Soil Mechanics. I, II. 2-6 hr. Classification of soils; permeability; seepage; settlement; shearing strength; stability of slopes; lateral pressures. Special theoretical or laboratory investigations. Staff

397. Research. I, II. 2-6 hr. Original report, or investigation on some topic in the Civil Engineering field. Mr. Baker or Mr. Speiden

ELECTRICAL ENGINEERING

Professors Jones and Seibert; Associate Professors Peterson and Smith; Assistant Professor Dubbe; Instructor Davis

Undergraduate Division

E.E.

*10. Introductory Electrical Engineering. I, II, S. 2 hr. PR: Math. 5. An elementary course to introduce the fundamental laws and principles of electrical circuits. Introduction to electrical laboratory equipment and procedure. 1 hr. rec., 3 hr. lab. Mr. Davis

*100. Elements of Electrical Engineering. I, II, S. 4 hr. PR: E.E. 10, Math. 108 (or conc.) Physics 112 (or conc.) Underlying principles of electric, magnetic and dielectric circuits including applications of Ohm's and Kirchhoff's laws. Induced and generated electromotive force. 3 hr. rec., 3 hr., lab. Mr. Davis

*104. Illumination. I, II. 2 hr. PR: Physics 112 and Math 108. A study of the basic principles and practices of illumination engineering, including a lighting survey and the design of a typical lighting installation. 2 hr. rec. Mr. Peterson

105. Electrical Fundamentals. I, II. 4 hr. PR: Math 108 and Physics 112. Fundamental principles of electric and magnetic circuits. Induced and generated electromotive force. Fundamental A.C. circuit analysis. Polyphase systems. Elementary electronics. 3 hr. rec. 3 hr. lab. Mr. Peterson

106. Electrical Machinery. I, II. 4 hr. PR: E.E. 105 or consent. The operating characteristics, applications and control of electrical machinery and equipment used in industry. 3 hr. rec. 3 hr. lab. Mr. Peterson

130. Direct-current Machinery. I, II. 3 hr. PR: E.E. 100. A study of the construction and the operating characteristics of direct current generators and motors. Special applications and special types of generators. Starting and speed control of motors. 3 hr. rec. Mr. Dubbe

131. Direct-current Machinery Laboratory. I, II. 2 hr. To accompany E.E. 130. A laboratory and problem course dealing with direct current machines. 6 hr. lab. Mr. Dubbe

*135. Alternating-current Theory and Measurement. I, II, S. 3 hr. PR: E.E. 100 and Math. 108. The study of sinusoidal wave forms, introduction and use of vector algebra as applied to A-C circuit analysis, analysis of linear bilateral networks, coupled circuit behavior, and polyphase systems. 3 hr. rec. Staff

*136. Alternating-current Theory and Measurement Laboratory. I, II, S. 2 hr. To accompany E.E. 135. A laboratory and problem course dealing with alternating current circuits 6 hr. lab. Staff

174. Industrial Applications of Electric Control. 3 hr. PR: E.E. 106. Fundamentals of electrical control devices used in industry, with emphasis on applications. 3 hr. rec. Mr. Jones

180. Electrical Problems. I, II. 1-3 hr. For sophomores and juniors. Staff

232, 233. Alternating-current Machinery. I, II. 4 hr. each semester. PR: E.E. 130 and 135. A study of the theory and operation of transformers, induction motors, alternators, synchronous motors, rotary converters and single-phase motors. 3 hr. rec., 3 hr. lab. Mr. Smith

243. Electrical Calculations. I, II. 2 hr. PR: E.E. 106 or 130 and E.E. 232 (or conc.) Assigned problems pertaining to the design of electrical equipment. Emphasis placed on the electrical characteristics of the equipment. 6 hr. lab. Mr. Jones

245. Electric Control. I, II. 2 hr. PR: E.E. 233. A study of control equipment and its application. Stress is placed on the ability to understand control circuits. 6 hr. lab. Mr. Peterson

*250. Electronics. I, II. 4 hr. PR: E.E. 135. The study of electron ballistics, tube characteristics, rectifiers and voltage amplifiers. 3 hr. rec., 3 hr. lab. Mr. Davis

*252. Electronics. I, II. 4 hr. PR: E.E. 250. The study of power amplifiers, tuned amplifiers, oscillators and modulators. 3 hr. rec., 3 hr. lab. Mr. Seibert

260. Network Analysis. I, II. 4 hr. PR: E.E. 135 and Math. 253. An introduction to network analysis as applied to the following subjects: Foster's reactance theorem, infinite lines, reflections on transmission lines, coupled circuits and filters. 3 hr. rec. 3 hr. lab. Mr. Dubbe

261. Transmission Lines. I, II. 3 hr. PR: E.E. 260. Transmission lines and terminal equipment at power and radio frequencies. 3 hr. rec. Staff

*264. Radio Engineering. I, II. 3 hr. PR: E.E. 252 or consent. Study and analysis of radio transmission, receiving and sound systems, frequency modulation, television, radiation and propagation. 3 hr. rec. Mr. Seibert

*265. Radio Laboratory. I, II. 3 hr. To accompany E.E. 264. 6 hr. lab. Mr. Seibert

280. Electrical Problems. I, II. 1-3 hr. For junior, senior, and graduate students. Staff

282. Symmetrical Components. II. 3 hr. PR: E.E. 233. An introduction to the methods of symmetrical phase components as applied in calculating currents in systems under various types of unbalanced conditions. 3 hr. rec. Mr. Smith

284. Transients. I, II. 3 hr. PR: E.E. 135 and Math. 253. A study of the transient behavior of various electrical circuits and networks. Heaviside's Operational Calculus, Expansion Theorem, an introduction of the Laplace Transform methods. 3 hr. rec. Mr. Dubbe

285. Electric-power Transmission and Distribution. I, II. 3 hr. PR: E.E. 260. A study of circle diagrams applied to the various characteristics of power transmission system, phase modifier applications and an introduction to power system stability. 3 hr. rec. Mr. Dubbe

286. Industrial Control and Servo Mechanisms. I, II. 3 hr. PR: E.E. 245 and Math. 253. Electrical-control devices in industry, their application and use in protection and control of electrical and mechanical equipment. 3 hr. rec. Staff

287. Industrial Electronics. I, II. 3 hr. PR: E.E. 250. A survey of the theory and applications of electronics in industry. 3 hr. rec. Staff

288. Antennas. II. 3 hr. PR: E.E. 264 (or conc.) Analysis and design of antenna systems. 3 hr. rec. Mr. Seibert

299. Ultra-high-frequency Technology. II. 3 hr. E.E. 264 (or conc.) Study of special problems encountered at high and ultra-high frequencies with special emphasis on pulse techniques as used in radar, television and pulse-modulation. 3 hr. rec. Mr. Seibert

Graduate Division

300. Seminar. I, II, S. 1-3 hr. PR: Consent. Discussion of research in electrical engineering and special problems. Staff

350. Vacuum-tube Circuits. I, II. 3 hr. PR: E.E. 252. An advance study for the analysis and design of vacuum-tube circuits. Mr. Seibert

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per semester, maximum credit 2 hr. (In cooperation with other departments and the U.S. Bureau of Mines.) Staff

386. Servomechanisms. II. 3 hr. PR: M. 104 and E.E. 245. Analysis and synthesis of servo control circuits. Staff

397. Research. I, II. 1-6 hr. Advanced research or special investigations on some topic related to electrical engineering. Mr. Jones or Mr. Seibert

GENERAL

Professors C. H. Cather and Worrell; Assistant Professor Weaver

G.

1. Engineering Lectures. I. (credit). Required of all freshmen in engineering. A series of lectures designed to acquaint the engineering student at the beginning of his course with the profession he has chosen. 1 hr. lecture. Mr. Cather

100. Inspection Trip. II. (credit.) Required of all seniors in engineering. Staff

190. Law for Engineers. I, II. 3 hr. PR: M. 102. Contracts, agency, business organizations, sales, negotiable instruments, real and personal property, professional registration and patents. 3 hr. rec. Mr. Worrell and Mr. Weaver

MECHANICAL ENGINEERING

Professors H. M. Cather and Shafer; Associate Professors Slonneger and Strait; Assistant Professor Hamilton; Instructors Bruckner, Delaney, L. E. Jones, Martin, Pyles, and Warner.

Undergraduate Division

M.E.

*7. Welding and Heat Treatment. I, II, S. 1 hr. Practice in cutting and welding steel and cast iron with oxy-acetylene and electric arc welding equipment. Demonstrations of different methods of heat treatment. One 3 hr. lab. Mr. Jones and Mr. Martin

*11. Machine Work. I, II, S. 2 hr. A study of equipment, purpose and character of operations, methods of holding work, turning, boring, drilling, grinding and shaping. Use of precision measuring instruments. Two 3 hr. lab.
Mr. Jones, Mr. Martin, and Mr. Delaney

16. Production Methods. I, II, S. 2 hr. PR: M.E. 11 or Conc. The economic use of machine tools; assembly line manufacture, gauging, and inspection during the various processes of manufacture. 1 hr. rec. One 3 hr. lab. Mr. Jones

*20. Engineering Drawing. I, II, S. 3 hr. PR: Plane Geometry. Lettering, use and care of instruments, orthographic projection, isometric drawing, auxiliary views, detail drawings and working drawings, assembly drawings, reproduction of drawings, and piping layouts. 1 hr. rec. Two 3 hr. labs.
Mr. Strait and Staff

*26. Descriptive Geometry. I, II, S. 2 hr. PR: M.E. 20 and solid geometry. The application of projective drawing to the solution of advanced space problems dealing with points, lines, planes, and solids by the use of auxiliary views. Two 3 hr. labs. Mr. Strait and Staff

*29. Mechanism. I, II. 3 hr. PR: M.E. 26, Math. 107 and Phys. 111. Graphical and analytical solution of position, relative motion and velocities, instant centers, acceleration displaceemnt diagrams, cams, gears, and gear trains and belt drives. 1 hr. rec. Two 3 hr. labs. Mr. Pyles and Mr. Hamilton

31. Principles of Industrial Engineering. I, II. 2 hr. PR: Sophomore standing. Principles of organization, including study and design of organization charts; elementary principles of motion and time study which includes elemental breakdown of jobs, use of time study watches and analysis of principles of motion economy; application of equipment to present day industrial processes. 2 hr. rec. Mr. Bruckner

110. Tool Design. I, II. 3 hr. PR: M. 102. Design, construction, application and economic aspects of jigs, fixtures and special tools used in manufacturing on a production basis. 3 hr. rec. Mr. Hamilton

112. Dynamics of Machinery. I, II. 3 hr. PR: M. 104 and M.E. 29. Determination of inertia forces; balancing of reciprocating and rotating masses; vibration and critical speeds of shafts; turning-effort diagrams and their analysis for fly-wheel requirements; theory of governors; and gyroscopic forces. 2 hr. rec., one 3 hr. laboratory. Mr. Hamilton

113. Machine Design. I, II. 3 hr. PR: M. 103 and M.E. 112 or consent. Analysis and design of machine parts, considering both the theory and its modifications due to manufacturing processes and financial limitations. Emphasis is on use of rational methods wherever possible and the development of judgment in the design of machines and machine mmebers. 2 hr. rec. One 3 hr. lab.
Mr. Hamilton

121. Thermodynamics of Engineering. I, II, S. 3 hr. PR. Physics 111 and 112 and Math. 108 (or reg. in Math. 108). First and second laws of thermodynamics; laws of permanent gases; vapors and gas-vapor mixtures; use of diagrams and tables giving the properties of steam and other vapors, flow of fluids, throttling. 3 hr. rec. Mr. Slonneger and Mr. Warner

122. Mechanical Laboratory. I, II. 1 hr. PR: M.E. 121. Experiments involving calibration of measuring instruments, calorific value of fuels, physical properties of lubricating oil and elementary tests of engines and boiler. One 3 hr. lab.
Mr. Slonneger and Mr. Warner

123. Engineering Laboratory. I, II. 1 hr. PR: M.E. 122. Measurement of flow of gases and vapors, economy and efficiency test of complete machines such as air compressors, automotive engines and diesel engines. One 3 hr. lab.
Mr. Slonneger

124. Thesis. I, II. 2-4 hr. Investigation or original research on some special topic relating to mechanical engineering. Staff

125. Heat Engines. I, II, S. 3 hr. Continuation of M.E. 121. Thermodynamics as applied to heat power engineering; boilers, steam engines, steam turbines, internal combustion engines, air compressors and refrigeration. 3 hr. rec.
Mr. Slonneger

140. Motion and Time Study. I, II, S. 3 hr. PR: M.E. 31. Principles and techniques, job analysis, standardization and formula construction, stop watch and micro-motion analysis of industrial operation, development of production and incentive standards. Two 1 hr. rec., one 3 hr. lab. Mr. Bruckner

142. Production Control. I, II, S. 3 hr. PR: M.E. 140. Planning, scheduling, routing and dispatching in manufacturing operations and production control systems. 3 hr. rec. Mr. Bruckner

144. Engineering Statistics. I, II, S. 3 hr. PR: Junior standing. The use of graphical analysis; measures of central tendency and dispersion; normal, binomial and Poisson distributions in engineering application; linear regression and correlation and tests of significance. 3 hr. rec. Mr. Shafer

*146. Motion and Time Study. I, II,S, 3 hr. PR: Junior standing, nonindustrial engineering student. Principle aims and applications of time and motion study; job analysis; standardizations, use of stop watch, micro-motion analysis, operation and methods analysis. 2 hr. rec., 3 hr. lab. Mr. Bruckner

*150. Industrial Accounting. I, II, S. 2 hr. PR: Accounting 1. A survey of the essentials of cost accounting. Emphasis is placed on the utilization of cost data and reports by management indicating management's control over industrial operations. 2 hr. rec. Mr. Shafer

203. Advanced Machine Design. I, II. 3 hr. PR: M.E. 113. Continuation of M.E. 113, and continues to stress the applications of fundamental principles to the design of machine members. 1 hr. rec. Two 3 hr. labs. Mr. Hamilton

211. Industrial Engineering Problems. I, II. 2 hr. PR: M.E. 140. For seniors. Special problems relating to industrial engineering. Mr. Shafer

214. Advanced Analysis of Engineering Data. I, II, S. 3 hr. PR: M.E. 144. The applications of advanced theories of statistical techniques to analyse and interpret industrial problems; the determination of economic lot sizes for production and design of construction of nomographs. 3 hr. rec. Mr. Shafer

*223. Steam Power Plants. I, II, S. 3 hr. PR: M.E. 125. Principles of design and operation of modern steam power plants for central stations and for process industries. Each student submits an individual design problem. 3 hr. rec. Mr. Cather

224. Steam Turbines. I, II, S. 3 hr. PR: M.E. 125. The theory of fluid dynamics and the thermodynamics of the modern turbines; materials, construction details and design of important elements; influences on economy of variations in cycles and operative ranges. 3 hr. rec. Mr. Cather

228. Engineering Laboratory. I, II, S. 1 hr. PR: M.E. 123. Economy and efficiency test of steam engines, steam turbines, gas engine; comprehensive test and heat balance of power plant in the laboratory. One 3 hr. lab. Mr. Slonneger

229. Internal Combustion Engines. I, II, S. 3 hr. PR: M.E. 121. The thermodynamics of the internal combustion engines; Otto cycle; Diesel cycle; two and four-cycle engines, fuels, carburetion and fuel injection, combustion, engine performance, supercharging. 3 hr. rec. Mr. Slonneger

230. Heat Tranmsission. I, II. 3 hr. PR: M.E. 125 or consent of instructor. Conduction, convection, and radiation heat transmission; steady state and variable heat flow; application to design of heat transfer apparatus. 3 hr. rec. Mr. Slonneger

250. Heating, Ventilating, and Air Conditioning. I, II, S. 3 hr. PR: M.E. 125. Methods and systems of heating, ventilating, and air conditioning of various types of buildings, types of controls, and their applications. 3 hr. rec. Mr. Cather

270. Industrial Lubrication. I, II. 3 hr. PR: M. 103 and M.E. 112. Characteristics of crudes, refining methods, testing specifications, selecting, applications, and purification of oils and greases for industrial use. 3 hr. rec. Mr. Cather

280. Mechanical Problems. I, II. 1-6 hr. For juniors, seniors, and graduates. Staff

286. Engineering Economy. I, II, S. 2 hr. PR: M. 102. Comparison of the relative economy of engineering alternatives; compound interest in relation to calculation of annual costs, present worth and prospective rates of return on investment; increment costs, sunk costs and the economy of equipment replacement. 2 hr. rec. Mr. Bruckner

288. Job Evaulation and Wage Incentives. I, II, S. 3 hr. PR: M.E. 140 or consent of instructor. Principles used in evaluating jobs, rates of pay; characteristics and objectives of wage incentive plans; incentive formulas and curves. 3 hr. rec. Mr. Shafer

290. Industrial Statistics. I, II, S. 2 hr. PR. M.E. 144. Economic objectives of quality control in manufacturing through sampling methods; the Shewhart control chart for variable attributes and defects per unit; statistical approach to acceptance procedures. 2 hr. rec. Mr Shafer

292. Plant Layout and Design. I, II, S. 3 hr. PR: M.E. 142. Problems in industrial plant design, equipment location, space utilization, layout for operation and control chart for variable attributes and defects per unit; statistical approach light, heat and ventilation. 1 hr. rec. Two 3 hr. labs. Mr. Shafer

294. Standard Manufacturing Costs. I, II, S. 3 hr. PR: M.E. 150. Development of standards for labor, material, and overhead expenses; uses of standards for control; analyses of variances between standard and actual costs. 3 hr. rec. Mr. Shafer

Graduate Division

303. Advanced Machine Design. I, II, S. 3 hr. PR: M.E. 203. Stresses in indeterminate machine parts, experimental stress analysis. Design for high temperatures, pressures and speeds. Bearings and lubrication. Rotating discs and elastic stability at high speeds. Effects and elimination of vibration in machines; impact and shock loading; machine mountings and shock absorbers. 3 hr. rec. Mr. Hamilton

351. Advanced Internal Combustion Engines. I, II, S. 3 hr. PR: M.E. 229. Combustion in spark ignition engine and in compression ignition engine; detonation; fuel-air ratios; heat losses; lubrication; efficiencies; two-stroke engines; four-stroke engines, performance, exhaust turbines, gas turbines. 3 hr. rec. Mr. Cather

354. Advanced Refrigeration. I, II, S. 3 hr. PR: M.E. 250. Thermodynamics of vapor cycles, refrigerants, fluid flow, heat transfer, psychrometrics, types of refrigeration and equipment required, application of refrigeration in industry, food preservation. 3 hr. rec. Mr. Cather

370. Theory of Industrial Engineering and Organization. I, II, S. 3 hr. PR: Graduate standing and consent of instructor. History and development of scientific management in industry starting with early works of Taylor, Gilbreth and Gantt, to the present time. 3 hr. rec. Mr. Shafer

371. Methods Analysis. I, II. 2 hr. PR: M.E. 140. An advanced study of the technique of methods analysis as an effective means of methods improvement and cost reductions. 2 hr. rec. Mr. Shafer

372. Advanced Time Study. I, II, S. 3 hr. PR: M.E. 140. Review of the various investigations which have been made, with special consideration given to the development of these studies into new fields. 3 hr. rec. Mr. Shafer

373. Budget Control. I ,II. 2 hr. PR: M.E. 294. Principles involved in the preparation of budgets by functional divisions and the application of divisional budgets as control media. 2 hr. rec. Mr. Shafer

374. Advanced Engineering Economy. I, II. 3 hr. PR: M.E. 286. Continuation of M.E. 286, with special emphasis on depreciation, engineering and economic aspects of selection and replacement of equipment; relationship of technical economy to income taxation and load factor and capacity to economy. 3 hr. rec. Mr. Shafer

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per semester, maximum credit 2 hr. (In cooperation with other departments and the U.S. Bureau of Mines). Staff

397. Research. I, II. 1-6 hr. Investigation or original research on some special topic relating to mechanical engineering. Mr. Cather and Staff

MECHANICS

Professors C. H. Cather and Worrell; Assistant Professors McNabb and Weaver; Instructor Plants.

Undergraduate Division

M.

*101. Statics. I, II, S. 3 hr. PR: Math. 108 and Physics 111 (or reg. in Math. 108). Fundamental definitions and the concept of static equilibrium; systems of forces and couples; application to solution of trusses and frames; centroids and moments of inertia. 3 hr. rec. Staff

*102. Mechanics of Materials. I, II, S. 3 hr. PR: M. 101 and Math 108. Stress and strain; riveted and welded joints; shafts and beams; deflection; statically indeterminate beams; column theory and design; non-homogeneous beams, 3 hr. rec. Staff

*103. Mechanics of Materials. I, II, S. 3 hr. PR: M. 102 and Math. 108. Combined stresses; fatigue; impact; creep and temperature effects; properties of materials; laboratory tests and the interpretation of the mechanical properties of materials. 2 hr. rec. and 3 hr. lab. Staff

*104. Kinetics. I, II, S. 3 hr. PR: M.101 and Math. 108. Kinematics of a particle; moment of inertia of masses; translation, rotation and plane motion of rigid bodies; principle of work and energy, impluse and momentum; application to engineering problems. 3 hr. rec. Staff

200. Advanced Mechanics of Materials. I, II. 3 hr. PR: M. 102. Combined stress and theories of failure; thick wall cylinders; flat plates; unsymmetrical bending; curved flexural members; localized stress; strain-energy methods in the analysis of statically indeterminate members. Mr. Cather

201. Advanced Kinetics. I, II. 3 hr. PR: M. 101 and 104. Dynamic balancing; Corioli's Law; gyroscopes; governors; simple servo-mechanism; mechanical vibration. Mr. Worrell

202. Advanced Materials Laboratory. I, II. 2-4 hr. PR: M. 102, 103. Continuation of M. 103 with emphasis on a selected problem or problems. Mr. Cather or Mr. Worrell

203. Experimental Stress Analysis. I, II. 3 hr. PR: M. 102, M. 103, M. 104. Introduction to some of the more common experimental methods of analyzing stress distributions. Photoelasticity, brittle lacquers, strain gage techniques and instrumentation, as applied to problems involving static, dynamic and residual stress distributions. 2 hr. rec. One 3 hr. lab. Mr. Worrell

Courses In The School Of Mines

Professor Spindler; Associate Professor Laird; Assistant Professors McClung and Palowitch.

Undergraduate Division

E.M

102. Mine Surveying. S. 5 hr. (laboratory and field work). PR: E.M. 103. Continuation of and supplementing E.M. 103; intensive field practice in underground and surface surveying. Should be taken during summer term immediately following semester in which E.M. 103 is taken. Mr. Laird and Mr. McClung

103. Mine Surveying. I, II. 3 hr. (2 hr. lecture, 1 hr. laboratory). PR: M.E. 26 and Math. 5. Principles of surface and subsurface surveying, celestial observations, and related calculations. Field practice using transit and level. Mr. Laird

106. Mineralogy. II. 2 hr. (rec. and lab.). PR: Chem. 10 or 15. Mineral identification, blowpipe analysis of minerals; occurrence, geographic distribution, and utilization of minerals; elements of crystallography. Mr. Laird

107. Mining Methods. I. 4 hr. PR: Physics 112 and Geol. 1. 3 hr. rec., 1 hr. lab. Inspection and evaluation of mining properties, mining methods and systems of mining, roof control, and operating characteristics of mining machinery. Inspection trips with written reports required. Mr. McClung

*109. Coal Analysis Laboratory. I, II. 1 hr. (laboratory). PR: Chem. 10. Sampling, preparation of laboratory samples, and analysis of coal. Mr. Palowitch

111. Introductory Mining. I, II. 2 hr. PR: Chem. 10 and Phys. 112. Explosives, timbering, drilling, and shaft sinking. Mr. Palowitch

*201. Oil-field Development. I. 2 hr. PR: Geol. 3. Introduction to principles, equipment, and methods applied to development of an oil property. Mr. Laird

*203. Petroleum Property Valuation and Management. II. 2 hr. PR: E.M. 204. Petroleum property valuation and acquisition; economic, governmental and social aspects of management of oil and gas properties. Mr. Laird

*204. Oil and Gas Production. II. 4 hr. (3 hr. rec., 1 hr. laboratory). PR: E.M. 201. Continuation of E.M. 201 with core analysis, drilling mud testing, and oil testing laboratory. Mr. Laird

205. Gas-measurement Engineering. II. 2 hr. PR: E.M. 201 and C.E. 115. (1 hr. rec., 1 hr. lab.) Methods of commercial gas measurement and pressure regulation with a laboratory devoted to use of various types of equipment. Mr. Laird

*207. Introductory Seismology. I, II. 1 hr. PR: Phys. 112. Earthquakes and their causes and area distribution; theory of elastic waves; the principles of seismograph construction, adjustment, and operation; interpretation and calculation of seismograms with exercises provided by records of the University seismopraph station. 1 hr. rec. Mr. Laird

*208. Geological Surveying. II. 1 hr. PR: E.M. 103 and Geol. 161. 1 hr. field and lab. Topographic mapping with the plane table. Mr. Laird

209. Mineral Preparation. I, II. 2 hr. PR: E.M. 212 and M. 104 or consent. Principles of preparation, beneficiation and concentration of metallic and nonmetallic ores for further processing or utilization. Not open to students with credit in E.M. 217. Mr. Palowitch

210. Mineral Preparation Laboratory. I, II. 1 hr. PR: E.M. 209 or concurrent registration in E.M. 209. Laboratory exercises and practice in sampling, screen analyses, float and sink separation, assembly and interpretation of test data, and the use of various types of beneficiation equipment. Mr .Palowitch

212. Advanced Mining. II. 3 hr. PR: E.M. 111 and E.E. 106. Engineering principles, methods and equipment applied to mine transportation, hoisting, and drainage. Mr. McClung

213. Mine Ventilation. I. 3 hr. (2 hr. rec., and 1 hr. lab.). PR: E.M. 107 and M. 104. Principles, purposes, methods and equipment pertaining to the ventilation of mines. Mr. Spindler

*214. Mine Valuation. I, II. 3 hr. PR: Econ. 2 and E.M. 107, or consent of instructor. Mineral property evaluation, sampling and estimation of mineral deposits, capitalized costs in mining and recovery of investment, analysis of mining costs, cost control and time analysis of mining operations. Mr. Palowitch

215. Industrial Safety Engineering. 1, II. 2 hr. PR: Senior standing. Analysis of problems of industrial safety and accident prevention, laws pertaining to

industrial safety and health, compensation plans and laws, and industrial property protection. Mr. Palowitch

216. Petroleum Engineering Design. I. 2 hr. PR: E.M. 204 (laboratory). Structural and machine analysis and design as related to the production and transportation of oil and natural gas. Mr. Laird

217. Coal Preparation. I, II. 4 hr. (2 hr. rec., 2 hr. lab.) PR: E.M. 212, E.M. 109, and M. 104. Principles of preparation and beneficiation of coal for marketing, with laboratory devoted to sampling, screen analyses, float and sink separation, and use of various types of coal-cleaning equipment. Mr. Palowitch

218. Advanced Mineral Preparation. II. 3 hr. (2 hr. rec., 1 hr. lab.) PR: E.M. 106, E.M. 217. The theory and practice of concentrating ores and industrial minerals with special consideration to the more recent advances in the beneficiation of both ores and coal. Mr. Palowitch

219. Advanced Mining Methods for Vein Deposits. I, II. 3 hr. PR: E.M. 107, M. 104. Methods and systems of mining other than flat seams. Emphasis placed on selection of methods in relation to cohesive strength of ore bodies and their enclosing wall rocks. Mining of anthracite seams included. Mr. Palowitch

220. Mine Design. I, II. 2 hr. (laboratory). PR: E.M. 212 and registration in C.E. 122. Design of an underground mining development with full report.
Mr. Spindler and Mr. McClung

221. Mine Design. I, II. 3 hr. (laboratory). PR: E.M. 220. Continuation of E.M. 220 including design of preparation plant and loading facilities with full report covering plan, equipment, operation, and costs.
Mr. Spindler and Mr. Palowitch

222. Mine Equipment and Machinery. I, II. 2 hr. PR. E.E. 103 and E.M. 212. Selection, installation, operation, and maintenance of mining equipment.
Mr. McClung

223. Mine Management. II. 3 hr. PR: E.M. 212, and Senior standing. Economic, governmental, social, and labor aspects of mining as related to the management of a mining enterprise. Mr. Spindler

224. Mining Engineering Problems. I, II. 1 to 6 hr. PR: Senior or graduate standing. Investigation and detailed report on a special problem in mining engineering related to coal mining, mineral mining, or geological, petroleum, and natural gas engineering. Supervision and guidance by a member of the graduate faculty. Staff

226. Advanced Mining Equipment Applications. I. 3 hr. (2 hr. rec., 1 hr. lab.) PR: E.M. 222. Structural, mechanical, hydraulic and electrical characteristics of the more common items of mining equipment. Controls, electrical and hydraulic circuits, and mechanical transmissions with associated problems. Laboratory design of a control system for a mining machine. Mr. McClung

227. Mine Power Applications. I. 2 hr. PR: E.M. 222 or consent. Underground transmission systems, electrical controls for mining machinery, alternating current applications in coal mining, power costs and safety features. Mr. McClung

228. Mine Equipment and Machinery Controls. II. 3 hr. PR: E.M. 227 or consent. Principles, application and use of electric and hydraulic devices and circuits for protection and control of mine machinery and equipment. Mr. McClung

230. Elements of Geophysical Prospecting. I. 3 hr. PR: Geol. 151, Phys. 112. Methods, instruments and caclulations for geophysical prospecting. Mr. Laird

231. Geophysical Prospecting Laboratory. I. 1 hr. (Laboratory). PR: E.M. 230 or concurrent registration in E.M. 230. Field and laboratory use of instruments used in geophysical prospecting. Mr. Laird

232. Petroleum Reservoir Engineering. II. 2 hr. PR: E.M. 204. Reservoir evaluations utilizing statistical analyses and subsurface data as related to a producing oil or gas field, a gas storage field or a secondary recovery project. Mr. Laird

Graduate Division

301, 302. Advanced Mine Design. I, II. Credit arranged. Advanced detail design and layout of coal mine plant, particularly incorporating new ideas of machines and mining methods. Staff

351. Coal Mining. SI. 3 hr. PR: Chemistry, 10 hr., Physics, 8 hr., and accompanied or preceded by general geology. Especially for students who are planning to teach mining subjects in high school. Not open to students taking E.M. 102, 111, or 212. Hours arranged . Staff

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per semester, maximum credit 2 hr. (In cooperation with other departments and the U.S. Bureau of Mines.) Staff

395, 396. Graduate Seminar in Coal Mine Operation and Administration. I, II. 3-6 hr. PR: B.S. Degree and consent of Committee. Group discussion and analysis of problems related to the production, preparation, marketing, and utilization of coal with special assignments and emphasis in accordance with personal background and field of interest of the individual students. Staff

397. Research. I, II. Credit arranged. Individual problem in some phase of mining. Carefully prepared report required. Staff

RESEARCH AND EXTENSION

The Engineering Experiment Station

Professor W. A. Koehler, Director

The chief functions of the Engineering Experiment Station are to encourage and carry on research and investigations that will enhance the industrial and economic welfare of the people of West Virginia; to make original contributions to the fundamental principles and knowledge along scientific and engineering lines; and to stimulate and train graduate students in research activities. The research undertaken by the Station therefore is primarily concerned with investigations in the production, processing, and utilization of the natural resources of West Virginia; investigations that will aid the existing industries of the state and promote the development of new industries; and investigations that will aid in the planning, design, and development of the public works of the state. As a consequence of this program, the subjects receiving particular attention by the staff of the Station are coal, oil, gas, clays, stone, sand, timber, water, steam and electric power, sewerage, sanitation, road building, transportation, aeronautics, and communications.

The Station will assist in compiling surveys and in conducting investigations of the industrial requirements and possibilities of any region or community in the state It cooperates with the West Virginia University Agricultural Experiment Station, State Road Commission, State Geological Survey, State Water Commission, U.S. Bureau of Mines, national engineering societies and state or national agencies whose assistance may promote the more effective fulfillment of the Station's functions.

To aid state industrial organizations that lack facilities and personnel to undertake important research investigations which arise in the development of their operations, the Station stands ready, where time and facilities permit, to assist in the prosecution of investigations on their fundamental problems. Such advisory services are free, but any special equipment, materials, or labor that may be needed must be supplied by the organization for which the work is done. Several companies and technological associations are sponsoring research fellowships in the Station.

The staff of the Station includes part-time services of several of the teaching members of the faculties of the College of Engineering and of the School of Mines, as well as a few full-time research engineers and chemists and part-time graduate student research assistants.

The results of the studies, surveys, investigations, and researches of the Experiment Station are published in bulletin form. Two series of bulletins are issued; to date there are 26 numbers in the Research Series and 39 in the Technical Series.

The Technical Bulletins contain selected papers from the Proceedings of the Annual State Water Purification Conferences, the State Coal Conferences, the Appalachian Gas Measurement Short Courses, and the Industrial Engineering Conferences. A list of publications and copies of the bulletins may be obtained upon application to the Director of the Engineering Experiment Station.

U. S. Bureau of Mines Station

The United States Bureau of Mines maintains laboratory and pilot-plant facilities for research and development work on the production of synthesis gas from coal, which is part of the Bureau's over-all program for synthetic liquid fuel development.

Under the terms of a cooperative agreement between the University and the Bureau, students are employed by the Bureau on a part-time basis.

A limited number of graduate students may be appointed as Bureau of Mines Fellows to work on research problems of interest to the Bureau. With the approval of the students' theses advisory committees, the problems may also be accepted as research for theses requirements. The students so selected have an opportunity to work under the joint supervision of government experts and University staff members.

In the selection of part-time student workers, preference is given to those in the upper third of their class.

The Bureau staff also conducts a graduate seminar in coal research. In this seminar, research problems and methods are discussed, with special reference to applications to the Bureau's current problem.

Mining and Industrial Extension

The department of mining and industrial extension in the School of Mines conducts courses of instruction in practical subjects in various sections of the state where groups of individuals wish to study and receive training in subjects pertaining to their everyday work. The department also aims to disseminate useful knowledge which has been amassed by research studies at the University to all classes of citizens in the state, and in this way to bring the University and its opportunities for learning to various groups of students who desire to enroll in its extension department.

The Short Courses in Coal Mining, Coal Preparation, and Mine Equipment and Maintenance

The Short Course in Coal Mining offered by the department of mining and industrial extension gives an opportunity to operators, officials, and employees of mining companies to obtain instruction pertaining to their work. The subjects covered in the short course are: explosives, methods of mining, timbering, mine gases, mine ventilation, hoisting, haulage, mine drainage, safety lamps, mine management, electricity in mines, mine fires and explosions, safety organization and administration, mining arithmetic, and elementary drawing.

Special attention is given to students desirous of preparing themselves for the teaching of mining classes under the Smith-Hughes and George-Dean Acts.

At the close of the short course the West Virginia Department of Mines conducts an examination for mine foremen and fire bosses. Tuition is free.

The Short Course in Coal Preparation is held principally for men who have been associated with the sizing and preparing of coal for market.

The classroom portion of the course covers the purpose of coal preparation, breaking and crushing, screening, cleaning, analysis of float and sink tests and washability curves, dewatering and drying, dedusting and dust collection, recovery of fines, auxiliary equipment, treatment of coal surfaces, loading, cost, power, water and labor, and analysis of flow sheets.

In the laboratory, the equipment includes a sand media cone, Baum jig, calcium chloride washer, heavy media cone washer, concentrating tables, basket jigs, air cleaning table with filter-type dust collectors, magnetic separator, centrifuges, and a complete closed circuit mineral flotation unit. These units are all self-contained pilot units with auxiliary equipment to permit complete test operation.

A Short Course in Mine Equipment and Maintenance is being offered by the department of mining and industrial extension to persons whose interest is in the maintenance of coal mining equipment. The subjects covered in this short course are: practical mechanics, equipment hydraulics, equipment electricity, shop mathe-

matics, lubrication, electricity and hydraulic measurements, electrical controls, underground mining equipment, substation and fan maintenance, preparation plant maintenance and maintenance reports and records.

The forty-fourth annual session of the Short Course in Coal Mining and the fourth Short Course in Mine Equipment and Maintenance will begin Monday, July 9, 1956, and continue until Friday, August 17, 1956. The sixth annual session of the Short Course in Coal Preparation will begin Monday, June 4, 1956, and continue until Saturday, July 14, 1956. For further information, write for the special announcement of the Short Course in Coal Mining, Coal Preparation, and Mine Equipment and Maintenance.

Vocational Courses Offered in Extension

Courses in foreman training and other special courses for those in industry are offered in centers where there is sufficient interest. The services of the Department are available for any city or town desiring to establish night schools and part-time schools.

Extension courses in mining are offered under the direction of the University at various mining towns throughout the state. The instruction in these courses is carried on by University extension instructors who visit each center every week. At the present time the work is planned on a four-year basis to cover the following courses: mine gases, safety lamps, ventilation, timbering, explosives, haulage, prevention of mine accidents, mine waste, drainage and pumping, mine methods, foremanship, electricity, mine fires and explosions, and coal geology. In each of these unit courses, particular emphasis is placed on safety features, state mining laws, and application of arithmetic to mining problems.

In addition to the above, special classes are offered in such subjects as effective speaking, group discussion, mine equipment and maintenance, mine surveying, and other selected subjects for which there is local demand.

Short Course in Gas Measurement

The Appalachian Gas Measurement Short Course in held annually on the campus and is conducted by the University in cooperation with the Public Service Commission of West Virginia, the West Virginia Oil and Natural Gas Association, the American Gas Association, manufacturers of gas measurement and regulation equipment and public utilities and industries producing, marketing or consuming natural gas in West Virginia and neighboring states. The course provides instruction in the theory and practice of gas measurement and regulation and is designed to be of interest to executives and officials of gas companies as well as to metermen.

The Sixteenth Annual Short Course will be held August 27, 28, and 29, 1956. Information regarding this event may be obtained from: R. E. Hanna, Jr., School of Mines, West Virginia University, Morgantown.

Fire Service Extension Schools

The Twenty-sixth Annual West Virginia State Fire School, conducted by the University in cooperation with the State Fire Marshal and the West Virginia Inspection Bureau, will meet on the campus from July 23 to 27, 1956. It affords information on new developments and intensive training in fundamentals of fire fighting to members of the fire service in the state. A permanent fire protection research and training center is maintained on the campus in cooperation with the office of the State Fire Marshal.

In addition, the University, in cooperation with the Vocational Division of the State Department of Education, offers the Firemen's Extension Course to fire departments in West Virginia. The course may be had upon application by the chief of any organized municipal or industrial department.

Instructional material covers such subjects as: local water supply and distribution, apparatus and equipment, principles of combustion, portable extinguishers, hydraulics, pump operation, respiratory apparatus, hose and ladder practices, flammable liquids and gases, fire fighting tactics, property inspections and fire prevention education.

Classes meet once a week for a period of twenty-nine weeks, beginning about the first part of October, and are taught by local instructors. Approximately one-fifth of the total class time is devoted to actual fire department evolutions.

Oil and Gas Extension Courses

In cooperation with the petroleum and natural gas industry, the Industrial Extension Department offers a five-year course of study in this subject at various points throughout the state.

Course I is of a preparatory nature, including a review of mathematics and treatment of the principles of physics and mechanics. Course II covers such topics as: properties of natural gas, fluid flow, gas measurement and gas transmission. Course III includes meter testing, pressure regulation and compression. Course IV treats of the principles of combustion and gas storage; while Course V covers general geology, geology of oil and gas and production practices.

Classes are organized in September and meet weekly for a period of approximately eight months. Instructors are employed on a part-time basis by the University and are selected for their technical training and industrial experience in the subjects which they teach.

Industrial Engineering Conference

The Seventh Annual Industrial Engineering Conference, sponsored by the College of Engineering and the School of Mines, was held at the University on April 12 and 13, 1956. The Conference is designed to promote the dissemination of information on industrial engineering principles and techniques, looking toward increased efficiency and reduced costs in industrial processes. Specialists in various fields present papers and lead discussions in problems relating to their respective subjects.

The Graduate School

GENERAL INFORMATION

By the order of the Board of Governors of West Virginia University, a University Graduate School is established, whose roots are implanted in all University undergraduate work, irrespective of departments or schools. The Graduate School is empowered (1) to direct research and investigation with particular reference to problems of the State, and (2) to train and recommend to the Board of Governors candidates for the degrees of Master of Science, Master of Science (Home Economics Education), Master of Science in the various Engineering branches, Master of Arts, Master of Music, Master of Social Work, Master of Agriculture, Master of Home Economics, Doctor of Philosophy, and Doctor of Medicine.

All regulations governing the Graduate School such as the determination of curricula, projects, majors, minors, standards, thesis requirements, and similar matters shall be formulated by the Executive Committee and the Dean of the Graduate School and presented to the Graduate Faculty for its consideration and action.

THE STUDENT BODY

Seniors in the colleges of West Virginia University who are within 10 semester hours of graduation may, with the approval of the Dean of the Graduate School, enroll for graduate courses for which they may receive graduate credit after obtaining their bachelors' degrees. Such graduate courses must not have been offered for undergraduate credit, and in every case permission must have been requested before or at the time of enrolling for the course or courses. Normally, the maximum amount of credit available to a senior by petition in this manner before he completes all requirements for the baccalaureate degree and gains admission to the Graduate School shall be 15 semester hours.

THE ADVISER

The adviser will arrange a specific course of study to be approved by the Dean and, in the case of candidates for advanced degrees, will preside at the candidate's qualifying and final examination.

THE FACULTY

The Graduate Faculty is composed of those faculty members who are actively assisting with any phase of the graduate program such as teaching graduate courses, directing graduate research, supervising thesis and problem work, advising graduate students and directing their graduate studies. Membership is by appointment by the Dean of the Graduate School following certification by the Executive Committee. Deans and Directors of the various colleges and schools and the President of the University are members ex officio.

GRADUATE DEGREES

Graduate degrees offered by the departments in the University which have been approved for graduate work are as follows:

Master of Agriculture (M.Agr.)
Master of Arts (A.M.)
Master of Home Economics (M.H.E.)
Master of Music (Mus.M.)
Master of Science (M.S.)
Master of Science in Agricultural Engineering (M.S.Agr.E.
Master of Science in Chemical Engineering (M.S.Ch.E.)
Master of Science in Civil Engineering (M.S.C.E.)
Master of Science in Electrical Engineering (M.S.E.E.)
Master of Science in Mechanical Engineering (M.S.M.E.)

Master of Science in Engineering of Mines (M.S.E.M.)
Master of Science in Home Economics Education (M.S.H.E.E.)
Master of Science (Biochemistry)
Master of Social Work
Doctor of Philosophy (Ph.D.)
Doctor of Education (Ed.D.)

GRADUATE CERTIFICATES

Graduate Certificates offered by certain departments or divisions of the University are:

Certificate of Advanced Study in Education
Professional Certificate of Social Work

PROFESSIONAL DEGREES

The following professional degrees are conferred upon graduates of the College of Engineering and the School of Mines of West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis, and an oral final examination.

Engineer of Mines (E.M.) Chemical Engineer (Ch.E.)
Mechanical Engineer (M.E.) Civil Engineer (C.E.)
Electrical Engineer (E.E.)

REQUIREMENTS FOR THE GRADUATE DEGREE

General Regulations

1. CANDIDACY

Admission to candidacy for any graduate degree is conditioned upon the fulfillment of the requirements for admission to the Graduate School, and also the particular requirements of undergraduate and graduate preparation for the field of study in which the student wishes to specialize. Unconditional admission to candidacy for an advanced degree involves a suitable period of graduate work in residence in which the student demonstrates his ability to do work of graduate caliber. Detailed information concerning candidacy for the Master's Degree and the Doctor's Degree may be found on the pages immediately following.

2. SCHOLARSHIP

No credits are acceptable toward an advanced degree which are reported with a grade lower than "C."

Reasonable standards of oral and written English must be maintained.

3. CURRICULUM

Credit toward a graduate degree may be obtained only for courses listed in this Bulletin and numbered 200-399.

No more than 15 hours of graduate courses in any one semester nor more than 6 hours of graduate courses in any one term of the Summer Session may be carried by a student. Any exception to this rule must be approved in advance by the Dean of the Graduate School.

4. RESIDENCE AND EXTENSION

Residence credit for special field assignments and for work taken off the University campus shall be allowed only with prior approval of the Dean.

No more than 15 hours of extension work may be counted by any one student toward the Master's Degree.

For majors in Education, no more than 12 hours by extension may be counted toward the Master's Degree.

The maximum credit that students pursuing graduate work by extension may receive in any one field shall be 8 semester hours.

No more than 6 hours of graduate credit obtained in other approved institutions may be considered in meeting the requirements for the Master's Degree at West Virginia University.* Graduate credits so accepted toward the Master's Degree must meet the usual departmental requirements for a continuous and unified program of graduate study and will reduce correspondingly the number of hours of graduate work by extension offered in West Virginia University extension centers that may be offered in meeting the requirements for the Master's Degree.

The time during which credit may be acquired in extension offered by institutions outside the state shall be limited in any area as determined by the University Committee on Extension and properly publicized by the Director of Extension.

No credits earned by extension prior to the admission of the student to graduate work and acceptance for graduate study may be counted toward meeting the requirements for the Master's Degree. This rule shall not apply to seniors in West Virginia University within ten hours of graduation who petition for graduate credit for courses not used to meet undergraduate requirements.

Each graduate student in residence, whether taking course work or engaged in conducting research or in writing a thesis or report, must register at the beginning of each semester or term during which graduate work is being done. He must be registered during the session in which he is to appear for final examination. Under exceptional conditions and with the prior approval of the Dean a graduate student may be permitted to meet a portion of the requirements for the degree in absentia, provided the customary residence and other requirements are met.

5. LIMITATION OF CREDIT LOADS FOR PART-TIME GRADUATE STUDENTS

Part-time graduate students will be required to reduce their credit loads in proportion to the outside service rendered and the time available for graduate study. In general, persons in full-time service to the University or other employer will not be permitted to enroll for more than 4 hours of work in any one semester or to obtain credit for more than 8 hours in any one academic year. In corresponding manner the maximum credit load for a single summer term of six weeks shall be 2 hours and for a Summer Session of nine or twelve weeks it shall be 3 hours. Any exceptions to these limitations will be permission of the Dean only and prior to registration for the work.

6. CREDIT BY EXAMINATION

The Graduate School will allow credit for education experience in the Armed Forces in partial satisfaction of advanced degree requirements for courses of the 200-399 series established by the Committee on Admissions by evaluation and/or by examination. For the Master's Degree, veterans may receive a maximum of 6 hours of credit by examination for work taken in the Armed Forces, but credit so obtained will reduce correspondingly the amount permitted by transfer from another institution. Such credit, however, will not serve to reduce graduate-degree residence requirements.

7. THESES AND PROBLEM REPORTS

All theses and problem reports shall be presented in the form prescribed at least one month previous to the Commencement Day on which the degree is expected. If the thesis or problem report is accepted, typewritten and bound copies shall be submitted to the Office of the Graduate School at least one week before the degree is to be conferred; a minimum of five copies of the master's thesis and doctor's dissertation, or four copies of the problem report, is required.

8. FINAL EXAMINATIONS

The candidate shall not be eligible for the final examination until his thesis or problem report has been approved by the examining committee. Following approval of the candidate's thesis or problem report and satisfactory completion of the courses in residence and satisfaction of other graduate requirements, he shall be given a final examination by his advsiory committee. Examining committees for theses and for final examinations for advanced degrees shall contain no fewer than three members for candidates for the Master's degree, and no fewer than five members for candidates for

*This regulation applies to all masters' degrees based upon a total credit requirement of 30 to 46 semester hours. The degree of Master of Social Work is based upon a total credit requirement of 54 to 60 semester hours, 24 to 30 of which may be transferred under suitable conditions, but the last 30 of which must be earned and completed in West Virginia University.

the Doctor's degree. In order to have his thesis accepted or to be considered as having satisfactorily passed his examination, the candidate shall have no more than one unfavorable vote in each case.

9. REQUEST FOR DEGREE

At the time of registration for the semester or session in which the candidate expect to receive a graduate degree, he shall submit a formal request to the Dean of the Graduate School for the conferring of such degree. The candidate must have completed all requirements for the degree which he wishes to receive, at least one week before Commencment Day.

10. COMMENCEMENT ATTENDANCE

Candidates for degrees to be conferred at the close of the second semester are expected to be present in persons to receive their degrees.

The Degree of Master of Arts and Master of Science†

REQUIREMENTS FOR CANDIDACY

Satisfactory fulfillment of General Regulation No. 1 for graduate degrees (stated on page 305) will admit an applicant to candidacy.

REQUIREMENTS FOR COMPLETION

The completion within a period of seven years* immediately preceding the conferring of the degree, except with the permission of the Dean, of no less than 30 credit hours of graduate work approved by the adviser.

Residence: A minimum is required of two semesters, or one semester and three summer terms, or five summer terms of residence in full-time graduate study at West Virginia University. For students offering 15 credit hours in extension, a minimum period of residence at West Virginia University of one semester or three summer terms shall be required for the Master's Degree.

Program: In general, when a thesis is offered, the program will consist of 24 hours or more of suitable course work and 1 to 6 hours of thesis or research.

Thesis or Problem Report: A thesis or problem report granting no more than 6 hours of credit may be required by the faculty of the college, school, or department in which the candidate's major interest lies.

Final Examination: An examination, oral or written or both at the option of the candidate's examining committee, shall be required, covering the candidate's thesis or problem report, studies in his major and minor fields, and his abliity to apply facts and principles.

Special Requirements: The candidate must meet the special requirements of the department in which he pursues his major study.

The Degrees of Master of Agriculture and Master of Home Economics

Requirements: The requirements for and regulations governing the granting of these two degrees are the same as those for the degree of Master of Science with the following exceptions:

1. Candidates for the degrees of Master of Agriculture and Master of Home Economics shall have previously completed the requirements for the degree of Bachelor of Science in Agriculture or Bachelor of Science in Home Economics, or their equivalents.

2. A research thesis shall not be required, but a problem report on some phase of agriculture or home economics shall be required. Not more than three semester

†Major and minor work toward the master's degree is offered by most of the departments and divisions of the University. For a list of these see the **Announcements of the Graduate School.**

*This ruling was discontinued temporarily during the war period. It was reinstated, effective June 1, 1948, as follows:

Beginning with the first summer term of 1948, the seven-year rule will again be put into effect with the provision that, in the cases of students who have already started their graduate programs, the adviser and the Dean of the Graduate School will determine whether work taken before the seven-year period shall be accepted for credit. If the adviser and the Dean cannot agree, the case shall be brought before the Executive Committee for review. In the event that a graduate student began work during the war period, an extension up to a maximum of five years may be granted.

hours of credit may be allowed for the problem report, which must be approved by the student's committee. The report must be submitted in the form prescribed by the regulations of the Graduate School.

3. The program of work shall be such that the emphasis will be on breadth of knowledge in the field of agriculture or home economics, as the case may be, rather than upon study in one narrow field of science. To insure such breadth of training, the student must take work in at least five subject matter fields. Not more than ten credits from other colleges in the University will be accepted.

4. Special regulations may be made by the subject matter divisions concerned, and approved by the Dean of the Graduate School.

The Degree of Master of Social Work and the Professional Certificate of Social Work

REQUIREMENTS FOR THE DEGREE OF MASTER OF SOCIAL WORK

The degree of Master of Social Work is conferred by the University upon those students satisfactorily completing the requirements as established by the Graduate School. These requirements are:

1. Broad pre-professional training including not fewer than 24 hours of undergraduate work in the social sciences.

2. Completion of graduate courses approved by the Department of Social Work totaling not fewer than 54 semester hours, of which the last 30 hours shall have been completed in West Virginia University. In most cases the total program will range from 54 to 60 hours in order that the student may obtain 6 to 12 hours of elective work in the social sciences.

3. Completion of 20 semester hours or two full semesters of supervised field work under faculty direction.

4. Completion of a problem report.

5. Demonstration of competency in the theory and practice of social work to the satisfaction of the faculty of the Department. This will include passing with a satisfactory grade a comprehensive final examination, which may be oral or written, or both, at the discretion of the Department. The degree will not be awarded solely for credits earned.

For most students the requirements for the degree of Master of Social Work can be met in one year after completion of the requirements for the certificate.

REQUIREMENTS FOR THE PROFESSIONAL CERTIFICATE OF SOCIAL WORK

The Professional Certificate of Social Work is awarded to students who may wish to have certification that they have completed approximately half of the training required for the Master of Social Work Degree. The requirements for the Certificate of Social Work are: completion of 30 semester hours of graduate social work courses, including at least 10 semester hours of field work; and satisfaction of all other requirements of the Graduate School. The Certificate can normally be earned in two semesters and a summer term of six weeks.

Interdepartmental Program

REHABILITATION COUNSELING

A joint program in education, psychology and social work leading to the degree of Master of Science with a major in rehabilitation counseling. For details see the *Announcements of The Graduate School.*

The Certificate of Advanced Study in Education

Requirements:

This is a distinct and terminal program including one full year of graduate study beyond the Master's Degree. The program is open to school administrators, supervisors, counselors, and teachers who furnish evidence of significant and appropriate teaching experience or closely allied educational work. The requirements for the certificate are: completion of 30 approved semester hours in residence earned after the conferring of the Master's Degree, including 6 to 12 semester hours of research. Persons expressing a desire to pursue the program leading to the certificate must satisfy a College of Education faculty committee on prerequisites.

The Degree of Doctor of Philosophy

REQUIREMENTS FOR CANDIDACY

Admission to the Graduate School and enrollment in graduate courses does not of itself imply acceptance of the applicant for a Doctor's Degree. After a period of residence the applicant will be admitted to a comprehensive preliminary or qualifying examination (either oral or written or both) in which he must demonstrate (a) a grasp of the important phases and problems of the field of study in which he proposes to major and an application of their relation to other fields of human knowledge and accomplishments, (b) the ability to employ rationally the instruments of research that have been developed in his major field, and (c) the ability to read French and German in a satisfactory manner.[1]

When an applicant has successfully passed his qualifying examination he will be formally promoted to candidacy for the Doctor's Degree. Admission to candidacy must precede the final examination for the Doctor's Degree by at least one academic year. Graduate courses pursued in fulfillment of the requirements for the Master's Degree, if of suitable character and quality, may be credited toward the doctorate.

REQUIREMENTS FOR COMPLETION

(a) *Curriculum*: The Degree of Doctor of Philosophy is not awarded for the mere accumulation of course credits nor for the completion of a definite residence requirement. The exact amount and nature of course work to be undertaken by a candidate will be determined in light of his previous preparation and the demands of his chosen field of application. The aggregate of correlated courses of graduate instruction, should, however, be no less than 60 semester hours, exclusive of research or thesis, except research or thesis credits earned for the Master's Degree. These credits shall be ordered and distributed so as to promote broad and systematic knowledge and the ability to carry on independent research.

(b) *Residence*: In general, the requirements for the degree of Doctor of Philosophy contemplate at least three years of full-time graduate work beyond the Bachelor's Degree. A minimum of 36 weeks in residence in full-time graduate study at West Virginia University is required.

(c) *Thesis*: The candidate must submit a thesis pursued under the direction of the faculty of this University on some problem in the field of his major interest. The thesis must present the results of the candidate's individual investigation and must embody a definite contribution to knowledge.

(d) *Special Requirements*: The candidate must satisfy such special requirements, subject to approval of the Dean of the Graduate School, as may be required by the faculty of the college or department in which his major lies. All required examinations in modern languages shall be taken not later than one academic year before the final examination for the degree.

(e) *Final Examination*: If the candidate's thesis is approved and he has fulfilled all other requirements stated above, he will be admitted to final oral examniation on his thesis before his examining committee. At the option of this committee, a comprehensive written examination also may be required.

NOTE: Departments offering the Degree of Doctor of Philosophy are: Agricultural Biochemistry, Agronomy and Genetics, Biology, Chemical Engineering, Chemistry, Geology, History, and Plant Pathology, Bacteriology and Entomology.

The Degree of Doctor of Education

This is a professional degree open to school leaders, administrators, teachers, and counselors who furnish evidence of significant and appropriate teaching experience. Persons expressing a desire to pursue the program leading to this degree must satisfy a College of Education faculty Committee on Prerequisites. (See page 248).

[1]In determining the candidate's proficiency in the two requisite foreign languages the major department must choose one of the following procedures:
(1) The examination may be conducted by the appropriate language department, or
(2) The examination may be conducted by a committee of three members—one member from the candidate's major field, one member from a related subject matter field, and one member from the appropriate language department.
With the approval of the Dean of the Graduate School, one other language may be substituted for French or German.

The School of Journalism

GENERAL INFORMATION

THE SCHOOL OF JOURNALISM

The first instruction in journalism at West Virginia University consisted of a two-hour course in news writing offered in 1915 in the Department of English of the College of Arts and Sciences. A sequence of professional courses was inaugurated by the same department in 1920. As the demand increased, a complete professional curriculum was made available. In 1927 an additional full-time instructor was engaged, larger quarters were obtained, and a separate Department of Journalism was created.

From year to year as enrollments grew, notice was taken of the superior quality and esprit de corps of the students who chose journalism as a field of major concentration. In 1935 a third full-time instructor was employed, and laboratories for instruction in news photography and typography were provided. By 1938 no fewer than 160 alumni had graduated from the professional courses, and many were filling positions of distinction. Forty per cent of the number were connected with newspapers and magazines. The others were engaged in advertising, business, public relations, radio, high-school or college instruction, library administration, and secretarial work or in the activities of home makers and community leaders. More than ninety-seven per cent were employed.

In consequence of the substantial development over nearly two decades and in view of the rapid advancement of professional schools of journalism throughout the nation, the University Board of Governors on April 22, 1939, separated the journalism unit from the College of Arts and Science and reorganized it as a School of Journalism with an administrative status similar to that of other schools and colleges of the University. Since that time the School has conferred the degree of Bachelor of Science in Journalism on 286, of whom 157 are men. Since 1920 the University has graduated 456 persons with journalism as a major field of study. Of this number slightly fewer than half are women. A fourth full-time instructor was added in 1946 and a fifth full-time instructor in 1949. To expand and intensify the instruction in newspaper advertising, industrial journalism, radio and television journalism, news photography, printing processes, promotion, public relations and administration, ten lecturers in journalism were engaged for 1955-56.

Aims

The main purposes of the school are these: (1) To find and prepare superior young men and young women who contemplate reporting and other journalistic writing, or radio and television journalism, or advertising, or the editing and management of newspapers or special periodicals, as a career; (2) to provide in addition to thorough and complete technical training the broad informational background and sure intellectual discernment that distinguish educated persons; (3) to cultivate a full sense of the responsibility that modern workers in the field of communications must assume in their relation to the community, state, and nation, and to familiarize them with tested procedure in pursuing objectives of high social value; (4) to stimulate an inquiring attitude toward journalism as an institution and promote scholarly research in its various branches; (5) to furnish a suitable educational foundation for persons looking forward to business or professional work closely related to journalistic practice.

Standards

From the beginning, instruction in journalism at West Virginia University has been in accord with the best professional-school standards. Emphasis has ever been on quality, not numbers. Only students with a scholastic rating of approximately "B" or higher have been encouraged to take the basic courses in reporting, and those not able to maintain an equally high standard in the first journalism courses have been requested to choose a major elsewhere.

The instructional staff has been engaged with careful attention to their individual ability to give expert instruction in particular fields. The curricula have been kept constantly abreast of progress in leading educational centers. Class sizes have never reached proportions where individual instruction had to be sacrificed. The school now conforms to recognized national standards, especially those required by the American Society of Journalism School Administrators, and is ranked with superior professional schools of the United States.

Location and Equipment

The School of Journalism, after being housed in Woodburn Hall for more than 32 years, moved into Martin Hall in 1953 where it occupies almost the entire building. This fine old academic structure of late Georgian design is located on the Circle in the center of campus activity. After extensive renovation, various alterations, and other changes in the interest of instructional efficiency and modern appearance, the building now serves virtually all the functional purposes that might be obtained from an entirely new structure.

With its basement and three stories, Martin Hall has the equivalent of 32 standard-sized classrooms, 29 of which provide the School with lecture rooms, an audio-visual classroom, an auditorium seating over 150 persons, a front business office and advertising seminar room, an advertising layout laboratory, a typographical laboratory, a composing and press room, quarters for a proposed offset photo-engraving laboratory, a large newsroom, a reading room, seven news-photography darkrooms, a radio journalism laboratory with expansion space for a television news and advertising laboratory, a public-relations and industrial-journalism laboratory, a room for the West Virginia Journalism Hall of Fame, a lounge, offices for the instructional and editorial staffs, and space reserved for future publication requirements.

In most respects the journalism rooms devoted to instruction in newspaper editing and publishing are equipped like the editorial and business quarters of a large weekly or a small-city daily newspaper. The large newsroom contains a U-copy desk, many work tables and desks, telephones, and 25 typewriters with desks. There is also a teletypewriter on which United Press dispatches typed in the style of copy used on teletypesetter circuits may be received from 3 P.M. to 3 A.M. every day. These reports are edited for the University daily newspaper by journalism majors working under the supervision of faculty members. These wire reports also furnish laboratory material for various classes.

The adjacent reading room contains a reference library and various newspaper files. It receives daily representative newspapers of the nation. It makes available for intensive study about 20 of the leading dailies, many carefully selected weeklies, and a number of the standard magazines of the United States. It has also a collection of the best high-school and college newspapers in West Virginia and other states. The school subscribes to most of the important special periodicals of the publishing and writing professions. A number of journalism books in frequent use are shelved in this room.

For instruction in newspaper typography, a large laboratory has been equipped not only for providing demonstration material but also for giving the individual student extensive practice in the setting and adaptation of type. The advertising-layout laboratory is supplied with special tables and desks for applied instruction. The facilities of the news-photography laboratory have been greatly increased. Additional cameras and developing materials are being added. Practice facilities are excellent for those wishing to specialize in news-reporting with the camera. Equipment for training in the various journalistic aspects of radio has been provided. The use of television in news reporting and advertising is also being given attention. In 1955 the School acquired for laboratory and field practice a late model Bell & Howell motion picture camera and all essential accessories for producing television films with the view of providing pictures of campus activities for West Virginia and regional TV stations. The School obtained from the Huntington Station WSAZ-TV a large collection of TV film for laboratory use. The School offers comprehensive programs of instruction in industrial publications and public relations. Having installed in 1953 a Model 31 Blue Streak Linotype, the School is now giving instruction in the fundamentals of mechanical composition. It is also adding to its training in the elements

of the printing arts by having installed in 1955 a medium-sized Heidelberg job printing press.

The School of Journalism building also houses the office of the West Virginia Press Association, which makes available to the students certain publications, periodicals, information, and other material from its files and records.

Additional opportunities for observation and practice, especially in the business and mechanical aspects of newspaper work, are provided at the plant of the West Virginia Newspaper Publishing Company, in Morgantown, where the University newspaper is printed under contract.

Practice Opportunities

Opportunities for applying the principles of sound newspaper and radio practice are good. The *Daily Athenaeum,* a five-day campus newspaper, is produced by journalism students in the various workrooms of the school where laboratories are conducted from 2-5 P.M. and from 7-10 P.M. every day except Saturday and Sunday. Reporters working on news runs cover the University community thoroughly, and trained deskworkers not only edit the local reporters' copy but also prepare for publication the dispatches of state, national, and world origin received by the United Press teletype. Local pictures are taken by the campus newspaper's own staff photographers, and other news pictures are selected from mats purchased from a national distributor.

All reporters serve as correspondents of weekly and daily newspapers. Majors pursuing the advertising-management sequence are required to spend no fewer than five hours a week soliciting advertising accounts for the campus daily, writing copy, and otherwise servicing their accounts, and making collections for advertising sold. Some students get additional practice by working part-time for Morgantown dailies or by taking vacation positions on newspapers of their home community. Majors are especially urged to obtain vacation work on a good weekly or daily newspaper during the summers that precede their junior and senior years. As a rule, student journalists have staff positions on, or are regular contributors to, other campus publications.

Students in the radio journalism sequence receive practical instruction not only in the University broadcasting studio but at Station WAJR, Morgantown, with which working relations exist. Campus, local, and world news is broadcast at WAJR every day from scripts prepared by radio students. Special scripts are also presented from time to time. In the school's radio laboratory are records for making recordings, a playback, a wire recorder, two tape recorders, a receiving set, and other equipment essential to such instruction. A Bell and Howell motion-picture camera for making television films is in use, along with essential accessories for editing films. All important regional TV telecasting stations' programs are received in the viewing laboratory. Practice opportunities for work with TV news and advertising are being arranged with area stations.

The Placement of Graduates

During more than three decades, alumni who had completed all or most of the professional courses in journalism have found little difficulty in finding desirable positions. Although the school cannot guarantee positions to graduates, it is glad to assist them in learning of openings and in making contact with employers. To this end it maintains without charge a placement register for both current and past graduates. Students and alumni are also invited to make free use of the University Placement Service.

Professional Relations and Services

From 1920 to 1954 the publishers, editors, and other communications workers paid annual visits to the University Campus to attend the State Journalism Conference. Among the organized groups participating were the West Virginia Publishers' Association, the West Virginia Associated Press, the West Virginia State Newspaper Council, the West Virginia Industrial Magazine Editors, the West Virginia Broadcasters' Association, the West Virginia Sports Writers' Association, and the West Virginia Intercollegiate Press Association. In 1953 the West Virginia Publishers' Association and the West Virginia State Newspaper Council were dissolved. In their place a modern

West Virginia Press Association was instituted. This new association plans to continue the long series of journalism conferences but to hold the annual meetings from time to time at other places than in Morgantown. The School of Journalism and the University as a whole will nevertheless continue their close relations with workers in the general communications field because the School is providing office quarters for the West Virginia Press Association and is employing the secretary-manager as a half-time lecturer. Special technical institutes are also projected by the School for the purpose of bringing communications personnel often to the campus. The WVPA will cooperate in such enterprises.

On the occasions when professional groups meet at the University the journalism faculty and students become acquainted with the practicing press, and members of the Fourth Estate come to know one another better and exchange tested ideas. About one hundred of the leading newspapermen of the nation and world have made addresses at past conferences. Technical experts have traced the progress of journalistic science and invention. Business and advertising specialists have conducted practical symposia in which their hearers freely took part. Editors of vision have given arresting glimpses of the still greater journalism of the future. The opportunity to hear leaders of newspaper organizations and to mingle with persons successfully engaged in newspaper practice and other forms of mass communication has long been appreciated by the young men and women in training.

In order to perpetuate the names, achievements, and ideals of the state's distinguished editors of the past, the West Virginia Journalism Hall of Fame was instituted in 1935. Elections, formerly made by members of the State Newspaper Council, will continue to take place every two years under the sponsorship of the West Virginia Press Association. Suitable memorials are being placed in Martin Hall in a special room designed for the Hall of Fame and exhibits of historical significance. The names of persons thus far honored follow:

Archibald Campbell (1883-1899). Wheeling Intelligencer. Elected 1935.
Andrew Price (1871-1930). Pocahontas Times, Marlinton. Elected 1935.
John Gabriel Jacob (1826-1903). Wellsburg Herald. Elected 1937.
Enos W. Newton (-1856). Kanawha Republican, Charleston. Elected 1937.
Albert Sidney Johnson (1863-1925). Monroe Watchman, Union. Elected 1939.
Harry Lambright Snyder (1861-1935). Shepherdstown Register. Elected 1939.
Jefferson Slidell Brown (1861-1935). Randolph Enterprise, Elkins. Elected 1941.
Robert S. Northcott (1818-1905). National Telegraph, Clarksburg. Elected 1941.
William E. Chilton (1858-1939). Charleston Gazette. Elected 1943.
Howard Holt (1883-1936). Grafton Sentinel. Elected 1943.
Aldine S. Poling (1867-1936). Barbour Democrat, Philippi. Elected 1945.
Herschel Coombs Ogden (1869-1943). Wheeling News-Register and other West Virginia newspapers. Elected 1945.
Gilbert Miller (1878-1939). Post and Dominion-News, Morgantown. Elected 1947.
Horatio Seymour Whetsell (1868-1941). Preston County Journal, Kingwood. Elected 1947.
William M. O. Dawson (1853-1916). Preston County Journal, Kingwood. Elected 1949.
Samuel Alexander McCoy (1880-1935). Moorefield Examiner. Elected 1949.
William B. Blake, Sr. (1851-1938). West Virginia News, Ronceverte. Elected 1951.
Earl Herndon Smith (1879-1940). Fairmont Times. Elected 1951.
Walter Eli Clark (1869-1950). Charleston Daily Mail. Elected 1953.
Robert H. Pritchard (1892-1950). Weston Democrat. Elected 1953.
Nathaniel P. Willis (1755-1831). Potomac Guardian and Berkeley Advertiser, Shepherdstown and Martinsburg. Elected 1955.
John J. Cornwell (1867-1953). Hampshire Review, Romney. Elected 1955.

From the beginning the press of the State has assumed a cordial and cooperative attitude toward professional training for journalism at the University. For many years the State Newspaper Council had among its standing committees one on Educational and Professional Standards and another on School of Journalism Building. The former group interested itself long and earnestly in helping the journalism unit maintain high-grade instruction and offer study inducements such as scholarships to superior young people. The latter concerned itself with ways and means of obtaining still better housing and equipment facilities for the school. Because of intensive study of elementary journalism in high schools and increasing attention paid to school publications, together with wide use of the newspaper as a teaching aid in English, civics, history, geography, science, and other subjects, the University has long cooperated with the state's educators. The School of Journalism provides

an annual critical service for high school news-periodicals and awards various degrees of excellence. It also unites with the West Virginia Association of Scholastic Journalism Directors each year in conducting a two-day State Institute of Scholastic Journalism in which the problems of teaching journalism and publishing newspapers and annuals are professionally considered.

Journalism Organizations

Journalism organizations of which eligible students may become members are: The University Press Club, to which all proficient reporters and advanced students belong; Theta Sigma Phi, national organization of high-scholarship women in schools of journalism and of professional women in newspaper, magazine, radio, publicity, and other writing fields: Journaliers, professional fraternity; and Kappa Tau Alpha national journalistic scholarship society, to which about ten per cent of the highest-ranking majors are elected each year. Many other University organizations are also open to journalism students with special interests outside the field of journalism.

Courses Open to Non-Journalism Majors

Major students in other colleges of the University may pursue courses in journalism for credit, provided these students can offer in each instance the necessary prerequisites.

Proficiency in English

Regular students of the University or transfers from other colleges and universities are expected to speak and write the English language with a marked degree of correctness. This means that in their English composition courses they should have achieved a standing of approximately "B" or higher. If upon entering the School of Journalism a student is found deficient in English, he will be required to take one or more additional courses in fundamental composition.

Typewriting and Shorthand

Before or soon after entering the University, a student planning to become a journalism major should learn the touch system of typewriting. From the beginning every reporter is expected to submit copy in neat typewritten form and to have a typing speed of no fewer than forty words a minute. If the reporter cannot demonstrate such typing ability, he may be asked to withdraw from the reporting course. He will find it advantageous to have his own machine.

Persons training for book-publishing or advertising-agency work and those expecting to become secretaries or assistants to executives find shorthand either desirable or indispensable. Such students are advised to learn it before coming to college or during their freshman or sophomore year.

The Committee on Scholarship

Messrs. Reed, Bond, and Summers.

REQUIREMENTS FOR THE DEGREE

THE BROAD EDUCATIONAL FOUNDATION

Far more than previously, newspaper publishers and other executives in the field of communications are insisting that their staff members be persons with a broad educational background. The day of the practitioner narrowly drilled in certain techniques and possessing only limited general culture is rapidly passing. As a result the modern school of journalism devotes 75 per cent of its curricula to studies that provide a comprehensive and authoritative education.

Among the foundation courses that receive special attention are these: the English language and literature; modern foreign language (Spanish, German, and French recommended, in that order); theoretical and applied economics, and business

administration; national, state, and local government and the government systems of foreign countries; American politics and international relations; the problems of management and labor and their social implications; American and European history; philosophy, psychology, and natural science. Persons capable of producing newspapers or broadcasting news events and their interpretation with which today's readers and listeners will be satisfied must be thoroughly informed about all aspects of the modern world. They must also know the art and science of the best journalistic practice.

BACHELOR OF SCIENCE IN JOURNALISM

A candidate who has satisfied all general requirements of the University and who as a regularly enrolled student of the School of Journalism has earned 64 semester hours of credit of a value specified later in the Scholarship section and in the subjects listed in one of the professional curricula hereinafter outlined will be recommended for the degree of Bachelor of Science in Journalism, provided the combined number of his credits acquired as a pre-journalism student and as a regularly enrolled journalism major totals no fewer than 128. As a minimum professional requirement, 25 of the 64 semester credits earned after the student has enrolled in the school must be obtained in journalism subjects. Moreover, no fewer than 60 of the 64 hours mentioned above shall be obtained in courses numbered between 100 and 300.

Foreign Languages

To be eligible for graduation, a student must have completed 12 semester hours in one language or 6 semester hours in each of two foreign languages in college; or he must have offered 2 units in a modern foreign language for entrance and must have completed 6 hours in the same language in college.

Laboratory Sciences

A candidate for the degree must have acquired 8 hours in one of the following laboratory sciences: biology, botany, chemistry, geology, physics, psychology, and zoology.

Maximum and Minimum Work

During each semester a regular student may register for no fewer than fourteen and no more than eighteen hours. To obtain permission to carry eighteen hours, a student must have maintained an average in all subjects of "B" or higher during the preceding semester. Variations from the foregoing rule will be allowed only on recommendation of the School's Committee on Scholarship.

Exemptions from Requirements

Exemption from any professional course because of practical newspaper experience that a student may have had will be granted only after the student has submitted satisfactory evidence as to the nature and quality of the experience. For such exemptions approved advanced courses shall be substituted. Credit toward a degree can be granted for practical work only when it has been done under the supervision of an accredited instructor or employer.

Professional Adviser

The director of the School of Journalism is the general adviser for all journalism students. Not only juniors and seniors but pre-journalism freshmen and sophomores should consult him about all scholastic and curricular problems that may arise.

THE MINOR FIELD

Since the prospective newspaper, radio or industrial-journalism worker needs the broadest and most thorough education possible, he will find his opportunities and usefulness enlarged if while in the professional school he devotes himself to a second field of concentration. To meet the requirements for a minor, he must earn at least

twelve semester hours of credit in some other subjects than journalism, nine of which must be in the junior and senior courses.

Minors especially recommended for journalism students are business administration, economics, education, English, history, political science, and sociology. Since there is a growing demand for journalistic writers who can interpret developments in agriculture, astronomy, chemistry, home economics, physics, and other related subjects, students with sufficient technical background will be encouraged to select a minor in one of these scientific fields.

SCHOLARSHIP

Graduates of the School of Journalism are expected to be not only citizens of good manners, of honorable and upright character, and of respect for other people and their ideas, but alert individuals of better-than-average intellectual attainments. It is urged, therefore, that all candidates for a degree aspire to earn at least three times as many grade points as they have credit hours. To be eligible for graduation, a student must earn as a minimum during the junior and senior years an average of 2½ grade points for every semester hour of required courses.

GRADUATE STUDY

Although at the present time the School of Journalism is devoting its instructional facilities chiefly to professional curricula that lead to the degree of Bachelor of Science in Journalism, it frequently provides a graduate minor for students taking the master's degree in a field of specialization related to journalism.

PRE-JOURNALISM CURRICULUM

With the view of moving directly toward established objectives, the School of Journalism assists the student during his freshman and sophomore years by designating several of the courses for which he should enroll. In arranging his schedule each semester, the student will be provided with competent advisory service under the supervision of the director. Juniors and seniors who have been admitted to the professional curricula will register in the School of Journalism.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Eng. 1—Comp. and Rhet.	3	Eng. 2—Comp. and Rhet.	3
Hist. 1—World Civilization to 1500	3	Hist. 2—World Civilization since 1500	3
Science	4	Science	4
Modern Foreign language.	3	Modern Foreign language.	3
Jour. 1—Intro. to U.S. Jour.	1	Jour. 2—Intro. to Reporting Skills.	1
Phys. ed. (men and women)	1	Phys. ed. (men and women)	1
Mil. or Air.	2	Mil. or Air.	2
Electives	0-2	Electives	0-2
Maximum hr. allowed	16-17		16-17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 11—Newspaper Report.	3	Jour. 12—Newspaper Report.	3
Hist. 52—Hist. of U. S.	3	Hist. 53—Hist. of U. S.	3
Foreign language (if needed)	3	Foreign language (if needed)	3
Eng. 6—American Literature*	3	Eng. 4 or Eng. 164—Eng. Literature*	3
Econ. 1—Prin. of Econ.	3	Econ. 2—Prin. of Econ.	3
Psych. 1—Intro. to Psych.†	3	Pol. Sci. 2—Am. Fed. System	3
Mil. or Air.	2	Mil. or Air.	2
Phys. Ed. (women)	1	Phys. Ed. (women)	1
Electives[1]	0-4	Electives‡	0-4
Maximum hr. allowed	16-17		16-17

CURRICULA

The School of Journalism offers three curricula designed to fit students for specialized branches of journalism practice or for occupations or professions for which journalistic training is desirable or necessary preparation. Each sequence leads to the degree of Bachelor of Science in Journalism.

NEWS-EDITORIAL CURRICULUM

The news-editorial sequence is designed primarily for the student who wishes to prepare himself for work as a reporter, copyreader, special writer, or departmental editor and who hopes to advance later to a still more responsible position in the general news and editorial field.

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 103—Copy Editing	3	Jour. 104—Copy Editing	3
Jour. 105—Applied Newspaper Management	3	Soc. 102—Intro. to Sociology	3
Jour. 227—Hist. of American Jour.	3	Jour. 220—Newspaper and Magazine Article Writing	3
Jour. 113—Principles of Advertising	3	Eng. 142—Shakespeare, or Eng. 259 —Dramatic Art of Shakespeare	3
Pol. Sci. 120—Amer. State and Local Government	3	Advanced Political Science	3
Electives	1-3	Electives	4-6
Mamixum hr. allowed	16-18		16-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour 230—Editorial Writing and Policy	3	Jour. 231—Social Responsibility of Journalism	3
Jour. 221—Critical Writing	2	Jour. 128—Public Affairs Reporting	3
Eng. 180 or Eng. 181—Bible Literature	3	Jour. 210—Law of the Press	2
Phil. 104—Principles of Philosophy	3	Jour. 120—News Photography	2
Jour. 110—Newspaper Typography*	2	Advanced social science or literature or language	3-7
Electives	3-5	Electives	6-8
Maximum hr. allowed	16-18		16-18

*Majors unable to schedule Eng. 4 and Eng. 6 in their sophomore year will be required to take them in their junior year.

†A sophomore expecting to become a high-school teacher will choose an elective in his intended teaching field as a substitute for Psychology 1, and in his junior year will take Education 105, "Educational Psychology."

[1]See footnote 1, page 318.

ADVERTISING-MANAGEMENT CURRICULUM

The advertising-management professional sequence is arranged for the student who expects to enter the business department of a newspaper and looks forward later to the management or ownership of a publication. This sequence is also adapted to the needs of those who plan to do advertising and promotion for a radio or television station, or who wish to fit themselves for advertising service in other types of commercial establishments.

ADVERTISING MANAGEMENT, THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 105—Applied Newspaper Management	3	Jour. 115—Advertising Layout and Copy	2
Jour. 110—Newspaper Typography*	3	Jour. 103—Copy Editing	3
Jour. 212—Public Relations	2	Jour. 114—Applied Advertising Sales	4
Jour. 113—Principles of Advertising	3	Geol. 109—Economic Geography or Geol. 116—Geography of North America or Geol. 170—Nat. Resources and Geol. of W.Va.	3
Pol. Sci. 120—Amer. State and Local Government	3		
Acct. 1—Principles of Accounting	3	Acct. 2.—Principles of Accounting†	3
Electives	0-2	Electives	1-3
Maximum hr. allowed	16-18		16-18

*Because present-day newspaper writers and editors, especially when they are staff members of smaller newspapers and magazines, find a knowledge of type and printing processes of marked advantage, every journalism major is urged to take while studying Jour. 110, or soon thereafter, Jour. 118, "Mechanical Composition."

†The student who is concentrating on advertising rather than advertising and management as a future vocation may substitute another advertising or business course for Acct. 2, "Principles of Accounting."

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 230—Editorial Writing and Policy	3	Jour. 108—Community Newspaper	2
Eng. 142—Shakespeare, or Eng. 259—Dramatic Art of Shakespeare, or Eng. 180, or Eng. 181—Bible Literature	3	Jour. 231—Social Responsibility of Journalism	3
		Jour. 128—Public Affairs Reporting	3
		Jour. 210—Law of the Press	2
Soc. 102—Intro. to Sociology	3	Advanced Political Science	3
Economics and Business Administration‡	7-9	Econ. and Bus. Administration‡	3-5
Maximum hr. allowed	16-18		16-18

‡Courses in business administration and economics especially recommended for students pursuing the Advertising-Management Curriculum are: Mark. 111 "Principles of Marketing"; Mark. 112, "Marketing Management"; Mark. 115, "Principles of Retailing"; Manag. 111, "Industrial Management"; Econ. 115, "Labor Problems"; Bus. Law 111, "Business Law"; Sec. Studies 51, "Business Communications."

GENERAL CURRICULUM

The general curriculum is planned for the following classes of majors:

A. Those wishing to make journalism a special field of concentration while getting a broad, general education of modern content.

B. Those expecting to follow radio or television as a career.

1(See page 317). Because of the growing demand for graduates trained for advertising, promotion, circulation, and other positions in the business department of newspapers, sophomores are permitted to elect Jour. 110, "Newspaper Typography," or Jour. 113, "Principles of Advertising," or both, if their schedules will permit. Because of the increasing public interest in radio journalism, sophomores may elect Jour. 122, "Radio and Television Journalism." Jour. 118, "Mechanical Composition," is also open to pre-journalism sophomores.

C. Those preparing to take a position in high school as teacher of journalism, English, and social sciences and as director of student publications.

D. Those looking forward to work on specialized business and trade periodicals, on household magazines and newspaper women's pages, or on agricultural and scientific publications.

E. Those desiring to be public-relations writers or directors or to enter the Federal or state civil service.

F. Those fitting themselves for secretaries or assistants to executives.

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 212—Public Relations	2	Jour. 103—Copy Editing**	3
Jour. 113—Principles of Advertising	3	Jour. 220—Newspaper and Magazine Article Writing	3
Jour. 122—Radio and Television Journ.	2	Soc. 102—Intro. to Sociology	3
Jour. 227—Hist. of American Journalism	3	Geol. 109—Economic Geography, or Geol. 116—Geography of North America or Geol. 170—Natural Resources and Geology of W.Va.	3
Pol. Sci. 120—Amer. State and Local Government	3	Electives in second field of concentration†	4-6
Electives in second field of concentration†	3-5		
Maximum hr. allowed	16-18		16-18

**Students following sequences A, C, or D in the General Curriculum are required to take Jour. 104, the second half of the "Copy Editing," since their future work may require a thorough knowledge of all aspects of the makeup and layout of pages.

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Jour. 230—Editorial Writing and Policy	3	Jour. 108—Community Newspaper	2
Jour. 221—Critical Writing or Advanced Eng. Composition	2	Jour. 128—Public Affairs	3
Phil. 104—Principles of Philosophy	3	Jour. 120—News-Photography, or Jour. 110. Newspaper Typography	2
Eng. 142—Shakespeare, or Eng. 259—Dramatic Art of Shakespeare	3	Jour. 231—Social Responsibility of Journalism	3
Electives in second field of concentration†	5-7	Electives in second field of concentration†	6-8
Maximum hr. allowed	16-18		16-18

†In his second field of concentration a student pursuing the General Curriculum must acquire before graduation at least 18 hours of credit in subjects bearing directly on his contemplated vocation other than newspaper work proper. In Sequence A, he will acquire approximately a double minor (at least 15 hours in courses between 100 and 300) in some traditional liberal-arts subject. In Sequence B, he will give special attention to newscasting, news commentary, continuity writing, program building, commercial copywriting, and radio and television advertising. He will also include courses in voice and diction and in radio announcing. In Sequence C, he will pursue a special Journalism-Education Sequence to be provided by his academic adviser. In Sequence D, he will include advertising, marketing, finance, business law, labor relations, personnel management, business communications, and, if possible, statistics. In Sequence E, he will include psychology of advertising in industry, personnel management, elements of marketing, labor relations, political parties and public opinion, American economic history and, if possible, statistics. In Sequence F, he will include business mathematics, business communications, secretarial training, a year of shorthand, and other similar courses adapted to his anticipated vocational need.

COURSES OF INSTRUCTION

The following system of course numbering is employed: Courses 1-99, intended primarily for freshmen and sophomores; courses 100-199, intended primarily for juniors and seniors; courses 200-299, advanced courses open to juniors, seniors, and graduate students.

1. Introduction to United States Journalism. I. 1 hr. Required of pre-journalism freshmen and open to others. Staff

2. Introduction to Reporting Skills. II. 1-2 hr. PR: English 1 with a grade of "C" or higher. Newspaper vocabulary, words difficult to spell, newspaper paragraphing, sentence beginnings, position of explanatory matter, copy condensation, newspaper analysis for identifying techniques, basic principles in interviewing, style sheet, and avoidance of the commonest errors in journalistic writing. Required of pre-journalism freshmen and open to others. Mr. Young

11. Newspaper Reporting. I, II. 3 hr. PR: English 1 and 2, with an average of 2.5 or higher for the two courses. Two lectures and three laboratory hours. Students are required to know how to use a typewriter. Mr. Bond and Mr. Young

12. Newspaper Reporting. I, II. 3 hr. Two lectures and three laboratory hours. Continuation of Journalism 11, which is prerequisite. Mr. Bond

103. Copy Editing. I, II. 3 hr. PR: Journalism 11 and 12. Mr. Atkins.

104. Copy Editing. I, II. 3 hr. PR: Journalism 103. Mr. Atkins

105. Applied Newspaper Management. I. 3 hr. PR: Journalism 11 and 12. Two lectures and two laboratory hours. Mr. Fisher

108. The Community Newspaper. II, S. 2 hr. PR: Journalism 11 and 12. One lecture and two laboratory hours. Mr. Fisher

110. Newspaper Typography. I, II, S. 2 hr. PR: Journalism 11 and 12. One lecture and two laboratory hours. Mr. Summers

113. Principles of Advertising. I, II. 3 hr. Two lectures and one two-hour laboratory period. Mr. Summers

114. Applied Advertising Sales. I, II. 4 hr. PR: Jour. 113. Practical application of advertising principles, with stress on newspaper advertising. Selling of space, preparing retail copy and otherwise servicing local newspaper accounts. Two lecture and conference hours and five laboratory hours a week. Limited enrollment. Mr. Summers

115. Advertising Layout and Copy. II. 2 hr. PR: Jour. 113. Theory and practice of effective layout and copy for newspaper advertising. Scientific advertising planning for the local merchant. Two lectures and one two-hour laboratory period. Mr. Summers

116. Radio and Television Advertising. I. 2 hr. PR: Jour. 113, or consent of instructor. Theory and practice in planning and preparing advertising for radio, and television. Historical development of radio and TV as advertising media, including sponsorship, rates, listener surveys, and promotion. Current trends. Mr. Summers

118. Mechanical Composition. I, II. 1 hr. PR: Jour. 110 or consent. The fundamentals of operation, care, and maintenance of the linotype. The use of mechanically produced type in newspapers and other publications. Special problems in mechanical composition. One lecture hour and one laboratory hour. Mr. James

120. News Photography. I, II, S. 2 hr. PR: Journalism 11 and 12, or consent of instructor. One lecture hour and one demonstration hour; a two-hour laboratory, to be arranged individually. Mr. Bond

122. Radio and Television Journalism. I. 3 hr. PR: Journalism 11 and 12 or consent of instructor. One lecture and five laboratory hours. Mr. Young

123. Advanced Radio and Television Writing. II. 3 hr. PR: Journalism 11 and 12 and Journalism 122 or consent of instructor. One lecture and five laboratory hours. Mr. Young

125. Industrial Journalism. II. 2 hr. PR: Jour. 212 or its equivalent. This course treats the relations of industry to its many publics and the use of internal and external publications as public-relations media. A critical study of the production of industrial publications is made, followed by extensive practice. Mr. Young

128. Public-Affairs Reporting. I, II. 3 hr. For juniors and seniors in journalism. Mr. Bond

130. Advanced Journalism Practice. I, II, S. 1-3 hr. PR: Jour. 128 or consent of instructor. Elective for journalism students only. A laboratory course in which practical training is obtained chiefly off the campus.

210. Law of the Press. II, S. 2 hr. For journalism seniors and graduates, or consent of instructor. Mr. Bond

212. Public Relations. I, II, S. 2 hr. Mr. Young

215. High-school Journalism and Student Publications. II, S. 2 hr. For seniors and graduates. Mr. Bond

220. Newspaper and Magazine Article Writing. II, S. 3 hr. For juniors, seniors, and graduates. Mr. Atkins and Mr. Reed

221. Journalistic Critical Writing. I. 2 hr. For seniors and graduates. Mr. Reed

227. History of American Journalism. I. 3 hr. PR: Hist. 52 and Hist. 53. Mr. Bond

230. Editorial Writing and Policy. I. 3 hr. For seniors and graduates. Mr. Atkins and Mr. Reed

231. Social Responsibility of Journalism. II, S. 3 hr. For seniors and graduates. Mr. Reed

The College of Law

GENERAL INFORMATION

The College of Law, established in 1878, is the oldest professional school in the University.

In 1897 the course of study was increased from one year to two years. Since 1912 the degree of Bachelor of Laws has been conferred only upon satisfactory completion of three years of law-school work. From 1913 to 1924 the requirement for admission was one year of college work; from 1924 to 1931 the requirement was two years. Since 1931 the minimum pre-law requirement for the degree has been three years of work of collegiate grade in an institution of approved standing.

In 1914 the College of Law was admitted to membership in the Association of American Law Schools, which is an organization of leading schools for the purpose of maintaining high standards in legal education. The College of Law also is on the list of schools approved by the American Bar Association.

The Law Building

The College of Law occupies a fireproof building, erected for its use in 1923. The building is three stories high. It contains two classrooms and a practice-court room, as well as private offices for each member of the staff. The library has a reading room accommodating the entire student body. In addition, the building has a locker room and club rooms for the students.

The Law Library

The Law Library contains more than 57,000 volumes. It includes reports of the highest courts of all states, insular possessions, and the District of Columbia, with the exception of a few volumes no longer obtainable, together with published reports of the lower courts of various states; the National Reporter System, and reports of the Federal courts and commissions; selections of annotated cases; the American and the English encyclopedias of law; the American Digest. It also contains reports of the English courts, as contained in the English Reprint and the Law Reports, as well as the Irish reports; the Scotch reports, and the more important Canadian and Australian reports; the English statutes and the statutes of the various states, as well as Federal statutory material, including more modern codes and compilations; a complete collection of codes and session laws of the Virginias from the time of early settlers; treatises and textbooks, representative fairly of the legal literature dealing with common law and with civil law, including a large amount of old English historical material.

In addition to these, there are legal periodicals and an extensive collection of bar association reports and legal miscellany; briefs and records of cases decided by the Supreme Court of Appeals of West Virginia, now totaling more than 1,200 volumes, together with briefs and records of the more recent cases in the Circuit Court of Appeals of the United States for the Fourth Circuit.

Admission to the Bar

Under the provisions of the West Virginia Code 1931, ch. 30, art. 2, sec. 1, those who receive the degree of Bachelor of Laws from West Virginia University may be admitted to the bar without further examination.

All persons seeking admission to the West Virginia bar, except those who hold the degree of Bachelor of Laws from West Virginia University, are required to pass the state bar examination.

Information as to the bar examinations and as to other matters relating to admission to the bar may be obtained upon inquiry directed to the Secretary, State Board of Law Examiners, Charleston, West Virginia.

The West Virginia Law Review

The *West Virginia Law Review* is published by the College of Law and is the official publication of the West Virginia Bar Association.

The editors of the Student Note and Recent Case Department of the *Law Review* are members of the second- and third-year classes, chosen each year from those students who made the highest grades in the preceding year. This department affords to students an opportunity to do research work of a practical nature.

ADMISSION REQUIREMENTS

Irregular Students

A limited number of students with less than the academic credit required of candidates for the degree of Bachelor of Laws will be admitted under the following conditions:

(1) If they have credit for no less than two years of work of collegiate grade in an institution of approved standing, or if they present a statement from the West Virginia State Board of Law Examiners certifying that they have satisfied the prelegal educational requirements of the Board;

(2) If they are at least 23 years of age;

(3) If they present some good reason, acceptable to the Scholarship Committee, indicating that their experience and training have especially equipped them to engage successfully in the study of law, despite lack of the required college credits.

An applicant who has been admitted as an irregular student and who, since his admission, has completed all the requirements for admission as a regular student, may upon the satisfactory completion of one full year of work in the College of Law, apply to the Scholarship Committee for permission to be granted the status of a regular student and to be given credit for law school work of a "C" grade or better taken while he was an irregular student.

Students in Other Colleges

Students of at least senior standing in other colleges or schools of the University may be permitted to take work in the College of Law subject to the regulations of the units where they are registered and of the College of Law, but conditioned in each case upon the consent of the instructor giving the course which such students desire to take.

REQUIREMENTS FOR DEGREES

BACHELOR OF LAWS

The degree of Bachelor of Laws is conferred upon those who have met the requirements for entrance to the College of Law as candidates for this degree and who have satisfactorily passed examinations in courses aggregating eighty-one credit hours, distributed over three years' residence. They must also have obtained an average grade of "C" as hereinafter provided. Except with the permission of the Scholarship Committee these eighty-one hours must be taken in no more than six semesters or the equivalent thereof in summer school, and the last twenty-seven hours of work must be taken in the College of Law of West Virginia University. When a student, because of admission with advanced standing from another law school, needs less than eighty-one hours in order to satisfy the requirements for this degree, the "C" average required for graduation is computed on the basis of work taken in the College of Law. No student may receive the degree of Bachelor of Laws without at least three semesters in residence at the College of Law and the successful completion of courses aggregating at least one-half of the total number of hours required for graduation. Candidates for the degree of Bachelor of Laws, entering the College of Law after September 1, 1953, shall be required to pass the proficiency examination in English given by the English Proficiency Board of the University.

COMBINED DEGREES: A.B. AND LL.B.

Students who have satisfied the minimum requirements for admission to the College of Law and have also completed 12 hours of work in a major and 9 hours in a minor, together with sufficient electives to amount to 96 hours, may be admittted as candidates for the combined degrees. The successful completion of the entire first year of work in the College of Law will satisfy remaining requirements for the degree of Bachelor of Arts. Two additional years of work in the College of Law are required for the degree of Bachelor of Laws.

PROGRAM OF INSTRUCTION

It is the primary aim of the College of Law to give the student an adequate preparation for the practice of law. This involves not merely imparting a knowledge of the legal rules and other materials which courts and administrative tribunals employ, but also, what is equally important, a training in the techniques of legal thinking and, so far as it is feasible to do so, in the practical skills of the profession. Some courses are especially designed to acquaint the student with the realities of practice, including the drafting of legal instruments and personal participation in the trial of cases in Practice Court. To the extent that it is practicable to do so, cases are tried in Practice Court exactly as they would be tried in an ordinary court. General information as to the nature of the training to be acquired in Practice Court and in the prerequisite course on Practice and Procedure is set forth *infra* under *Description of Courses.*

In most courses the work of the student is based chiefly upon the study and discussion of decided cases and statutes, with collateral reading of textbooks and periodicals, elucidated by free discussion in class. In all courses special emphasis is given to those West Virginia cases, statutes and procedures that differ from the general law. Thus, although it is an aim of this College to give to West Virginia students a training which is not available at any other law school, it is at the same time a fundamental objective of this College to give every student such a general and practical legal training that he will be adequately qualified to practice law in any other state.

The over-all objective of the College of Law connotes, among other things, an attempt to train the student to discover and solve the ever-varying problems which constantly confront lawyers, courts and administrative tribunals; and this, in essence, envisions cultivating in the student a capacity to think intensely and inquiringly, an ability to make searching analyses of complex fact situations which will disclose the legal questions involved therein, an imaginative resourcefulness in ascertaining possible solutions, a will and patience to investigate their validity and practicability, and a determination not only to take nothing for granted but to act conscientiously and courageously on his own considered judgment. This also involves an effort to inculcate in the student an appreciation of the lawyer's responsibility to his client and to society, and an understanding of the grave dangers inherent in any infringement of the ethical standards of the profession.

The following program of instruction is designed with these ends in view. The following courses are required:[1] All first-year courses, Common Law Pleading, Equity II, Evidence (including Examination of Witnesses), Practice and Procedure, Practice Court, and Taxation. All other courses are elective. Neither fewer than 13 nor more than 16 hours may be carried without the consent of the Committee on Scholarship.

DESCRIPTION OF COURSES

The following abbreviations are used in the description and schedule of courses:

I—a course given in the first semester.
II—a course given in the second semester.
I, II—a semester course given in each semester.
PR—prerequisite.
R—required

102. Common Law Remedies. I. 2 hr. R. Introduction to the judicial process and organization of courts; the development and present effect of common law actions, including trespass, trespass on the case, detinue, replevin, ejectment, account, covenant, debt and assumpsit. The course also deals with the relief available in unlawful entry and detainer as well as in the extraordinary remedies of mandamus, prohibition, quo warranto, information in nature of quo warranto, certiorari, habeas corpus, and by injunction. When time permits, a general discussion of the application of statutes of limitations is included. Cook, *Readings on Forms of Action at Common Law.*

103-4. Contracts. I. 6 hr. R. The general principles of substantive law relating to contracts, formal and informal. The creation of simple contracts by offer and

[1]Under very exceptional circumstances, the Scholarship Committee may exempt a student from taking a required course.

acceptance; consideration, Statute of Frauds, joint obligations, third-party beneficiary contracts, assignment of contractual rights and delegation of duties; conditions, performance and breach, excuses for nonperformance, impossibility of performance; discharge of contractual duties, and illegal contracts. Williston, *Cases on Contracts,* 6th ed., A. L. I. Restatement of Contracts.

105-6. Criminal Law and Procedure. II. 4 hr. R. Elements of crime generally and defenses thereto, with detailed consideration of various specific crimes, including homicide, assaults, rape, larceny, embezzlement, false pretenses, robbery, burglary, and receiving stolen property and with general consideration of the elements of other crimes; conspiracy, solicitation, and attempts; parties to crimes, criminal procedure at common law, with emphasis on West Virginia procedure, including jurisdiction, venue, preliminary examination, grand jury, indictments, pleas, trial and sentence; entrapment, arrest, and double jeopardy. J. Hall, *Cases and Readings on Criminal Law and Procedure.*

210. Equity I. II. 3 hr. R. This course covers the nature and principles of equity jurisdiction; operation and enforcement of equitable decrees; decrees as to property, suits and acts in other states; specific relief against torts, including relief against waste, trespass, nuisances, interference with business rights, defamation, and injuries to personality; bases and forms of relief against torts; effect of criminal law on equitable relief; defenses to specific relief. Time available usually permits some consideration of the special equitable remedies. In this course special attention is given to bills of interpleader and bills in the nature of bills of interpleader, both in state and federal courts. As to other special equitable remedies, see Equity II. Chafee and Simpson, *Cases on Equity,* 2d ed.

107. Personal Property. I. 2 hr. R. A miscellaneous survey of the law pertaining to personal property not treated specifically in other courses, including the general concept of property and distinctions between real and personal property; the elements, acquisition and legal significance of possession; finding; bailments; liens, pledges; acquisition of ownership by bona fide purchase, adverse possession, accession, confusion, judgment, satisfaction of judgment and gift; fixtures; emblements. Bigelow, *Cases on Personal Property,* 3d ed.

108. Property I. I. 4 hr. R. The course deals with the modern land law of the United States and of West Virginia in particular. The historical background of real property, the types of estates in land, concurrent ownership, conveyancing and future interests before the Statute of Uses (1536), the Statute of Uses and its consequences are covered in the initial weeks of the course by text and problems with a few modern cases to illustrate the slow demise of ancient, out-moded property rules. The major portion of the course consists of three parts: (1) the modern land transaction which is concerned with the Statute of Frauds, the contract for the sale of land, marketable title, status of vendor and purchaser and problems in equitable conversion, the morgtage, the deed, delivery in escrow, description of the land, covenants for title, recording acts and significance of failure to record, record notice, inquiry notice, definition of a bona fide purchaser for value, the Torrens System and title insurance; (2) controlling the use of land which deals with legislation restricting the use of land and constitutional limitations thereon, covenants, conditions, construction of covenants, unenforceable covenants and the running of the benefit and burden of covenants; and (3) easements, licensing, rights of lateral and subjacent support, water rights, and adverse possession. The casebook contains chapters of text on taxes and insurance for property lawyers which the student is expected to master outside of class. Casner and Leach, *Cases and Text on Property.*

109-110. Torts. I, II. 5 hr. R. Liability for intentional and unintentional acts. Includes assault and battery; false imprisonment, privileged acts, negligence; causation; strict liability; deceit; defamation, and invasion of rights of privacy. Seavey, Keeton and Thurston, *Cases on Torts.*

232. Use of Law Books. II. 1 hr. R. Text assignmnets with accompanying problems, demanding use of the Law Library, familiarize the student with the kinds of published materials used in seeking solutions for legal problems with the ways of using them. Weisiger and Davies, *Manual for the Use of Law Books.*

SECOND AND THIRD YEARS

111. Accounting for Lawyers. I. 2 hr. The course is designed for students with no previous training in accounting and has as its objective the preparation of a young lawyer for collaboration with accountants in such problems as require the work of both professions for a solution. The principles of elementary bookkeeping are considered only insofar as it is necessary to enable the student to grasp the more fundamental questions of accounting policy. The major portion of the course concerns the application of sound accounting principles to the problems of periodic determination of revenue, matching costs and revenues, inventory methods, valuation of tangible and intangible assets, depreciation and amortization, surplus and reserves, analysis of financial statements, and consolidated financial statements. Practical problems are regularly assigned for outside work throughout the term. Amory & Hardee, *Materials on Accounting*, 2d ed.

201. Administrative Law. II. 4 hr. A comprehensive outline of agency procedures rather than intensive study of any particular agency. Attention is directed primarily though not exclusively to federal agencies. The administrative process itself, including the operation of the Administrative Procedure Act, receives primary emphasis in an effort to qualify students for effective client representation in dealing with the agencies. Judicial and other outside controls of agency action are studied and the extent to which constitutional limitations apply is touched on. Davis, *Cases on Administrative Law*.

239. Business Associations. I. 3 hr. This course covers the various types of business associations other than corporations. Conduct of business by agents, including the employment relation and workmen's compensation, is considered in some detail. Also considered are joint ventures, partnerships, unincorporated associations, joint stock associations, and business trusts. Steffen, *Cases on Agency*.

202. Coal, Oil and Gas. II. 3 hr. Nature of ownership of these subsurface minerals; methods of transferring the ownership thereof; exploitation by means of leases; protection from damage against wrongful taking thereof; partition among co-owners; analysis of leasehold estates, the habendum clause, the drilling clause, lessee's duty of development, assignment of leases and tranfers of the reversion; rents and royalties; tort liabilities in connection with operation; coal mining rights and privileges. Summers, *Cases on Oil and Gas*.

203. Common Law Pleading. II. 5 hr. R. A comprehensive review of the system developed by the common law and by statute for the purpose of forming issues of law and issues of fact for trials in common law actions. The demurrer, producing an issue of law, receives first consideration because it is the mechanism by which the sufficiency of all the other pleadings, leading to issues of fact, is determined. The declaration, which states the plaintiff's cause of action and is the initial pleading in the case, receives extensive consideration because the cases dealing with it are intended not only to define the formal and substantial requisites of allegations stating causes of action in the whole contract and tort fields, but also to illustrate the general rules of pleading. A study of the plea, in which the defendant asserts matters of fact as a defense to the cause of action alleged in the declaration, begins with consideration of general principles relating to pleas and continues with an examination of the specific requisites of the various kinds of pleas; the three classes of traverses; pleas in confession and avoidance; pleas in estoppel; pleas of setoff and recoupment; and pleas in abatement. The replication and subsequent pleadings require little attention, but the new assignment, which comes at the replication stage, and the departure, which may come at or after the replication stage, receive particular consideration. Thereafter, amendment, aider by verdict, and repleader are dealt with as separate topics. Parties to actions and the consequences of nonjoinder and misjoinder of parties receive attention in the concluding topic. Particular emphasis is given to West Virginia statutes, court rules and decisions. Sunderland, *Cases on Common Law Pleading*, 2d ed.

204. Conflict of Laws. 4 hr. This course deals with the legal problems arising when an occurrence cuts across state or national boundaries. Emphasis is placed upon the problem of choice of law to be applied in the given situation where the laws of the states involved differ. The problems studied involve questions of domicile, jurisdiction of courts, foreign judgments, wrongs, contracts, property, governmental

activities, family law, administration of estates, partnerships, associations, and corporations. Cheatham, Goodrich, Griswold, and Reese, *Cases and Materials on Conflict of Laws,* 3d ed.

205. Constitutional Law. I. 4 hr. The course aims to impart an understanding of the role of the Federal Constitution in relation to individual liberties and to the federal system and of the judicial process in operation as exemplified in constitutional decisions. The focus is on the commerce and the due process clauses almost exclusively. The materials assigned for study consist of the full text of the original reports of selected cases.

206. Corporations. II. 4 hr. The law of business corporations including formation of such corporations; corporate powers and their distribution between shareholders, directors, officers and agents, and the manner of exercising such powers; creation and maintenance of corporate capital; the issuance and marketing of securities, and the rights of shareholders with respect to dividends. Dodd and Baker, *Cases on Corporations,* 2d ed.

207. Creditors' Rights. II. 2 hr. Procedures for enforcing the rights of creditors. Individual procedures (execution, garnishment, suggestion and creditors' bills); fraud on creditors; collective procedures (general assignments, creditors' agreements, and bankruptcy). Durfee and Smith, *Cases on Creditors' Rights,* rev. ed.

208. Damages. I. 2 hr. The course deals with the rules and principles of law applicable to the determination of the sum of money to be awarded to the plaintiff in a legal action brought to recover for the loss suffered by him as a result of some violation of his legal rights caused by the defendant. One-third of the course is allotted to the study of the rules and standards applicable generally, such as determination of value, requirement of certainty, recovery of interest and expenses of litigation, the doctrine of avoidable consequences, and credit for benefit accompanying injury. The next one-third deals with damages in tort actions and considers exemplary damages, injuries to the person, defamation and business disparagement, deceit, and injuries to the interests of owners of personal property and to the interests of landowners. The final one-third is devoted to a study of the rules and measures of damages for breach of contract. McCormick and Fritz, *Cases and Materials on Damages.*

209. Drafting Legal Instruments. II. 1 hr. Students are required, using submitted data, to draft completely, as if to be submitted to a client, such fundamental instruments as deeds of conveyance, deeds of trust and leases. Variations in formalities of execution are emphasized, depending upon whether the parties involved are natural persons, partners or corporations, and whether the instrument is executed through the medium of an attorney in fact. Drafts are corrected and criticised. Major portions of the class hours are devoted to general discussions of legal principles and statutes pertinent to the various assignments.

210. Equity II. II. 3 hr. R. This course deals largely with the specific performance of contracts, including consideration of the types of contracts as to which equity courts will grant relief, the extent to which the court will grant relief, the effect of such contracts on third persons (herein of equitable servitudes or restrictions on use of land), the consequences of the right to specific performance (herein of the effect of death of one or both of the parties to the contract or destruction of or damage to the property involved), relief where performance possible does not comply with the contract, relief where the contract does not comply with the Statute of Frauds, and various defenses to relief in equity, such as inadequacy of consideration, laches, misrepresentation, concealment, nondisclosure, mistake, hardship, and lack of mutuality. When time permits, consideration is given to certain special equitable remedies such as bills of peace, cancellation of contracts, removal of cloud upon title, and declaratory judgments. As to interpleader, see Equity I. Chafee and Simpson, *Cases on Equity,* 2d ed.

212. Equity Pleading and Practice. I. 1 hr. PR: Common Law Pleading. Principally, an exposition of the fundamental pleading devices developed by courts of equity for purposes of defining and deciding issues in an equity suit; including, on the plaintiff's side, the function of a bill of complaint and a replication, and on the defendant's side, the functions of a demurrer, plea, answer, disclaimer and

cross bill. Preliminary consideration is given to principles determining the proper parties to a suit in equity and the effects of nonjoinder and misjoinder of parties. Procedural topics include amendments; motions; petitions; testimony and hearing; masters in chancery; classification, correction, reversal and enforcement of decrees; equitable defenses in actions at law; appellate procedure. In all instances emphasis is placed on West Virginia statutes and decisions. Clephane, *Equity Pleading and Practice*, selected cases, statutes and lectures.

213. Evidence. I. 4 hr. R. This course deals with the law of evidence in trials at common law and in equity, with collateral reference to proceedings before commissions. The principal topics covered are judicial notice; burden of proof and presumptions; problems of relevancy, remoteness, undue prejudice, and the like; leading rules and principles of exclusion and selection; functions of judge and jury. (Topics relating to witnesses are dealt with in another course.) A considerable part of the classroom work deals with the handling of problems after the manner in which the problems would be handled in a trial court. Where the local law differs from the commonly accepted view, special attention is given to the West Virginia law. Morgan and Maguire, *Cases on Evidence*, 3d ed., supplemented by required readings.

214. Examination of Witnesses. II. 1 hr. R. A study of the materials and procedures dealing with form of testimony; perception and memory in connection with presentation of testimonial evidence; direct examination and matters incident thereto; cross-examination and matters incident thereto; redirect examination; discretion of the trial judge; competency and privilege. Where the local law differs from the general view, emphasis is placed on the West Virginia law. Morgan and Maguire, *Cases on Evidence*, 3d ed.

215. Federal Courts. I. 3 hr. Jurisdiction and procedure in federal courts. Federal question and diversity jurisdiction; removal jurisdiction and procedure; the law applied in federal courts; venue, process, joinder of parties and actions, and trial of actions in federal courts. McCormick and Chadbourn, *Cases on Federal Courts*, 2d ed.

219. Labor Law. II. 3 hr. Legality of labor objectives and of methods used to gain those objectives, such as strikes, picketing, and boycotts; organization and operation of labor unions; the labor injunction, including the effect of legislation thereon; collective bargaining, the law and contracts resulting therefrom; employer and union unfair labor practices; arbitration, mediation and conciliation. *CCH Labor Law Course.*

220. Landlord and Tenant. II. 3 hr. Rights and liabilities of lessor and lessee. Includes the creation of landlord and tenant relation; creation and effect of express and implied covenants in leases; transfer of leasehold and reversionary estates; breach of covenants and conditions; and termination of landlord and tenant relation. Jacobs, *Cases on Landlord and Tenant*, 2d ed.

237. Legal Ethics. II. 1 hr. The primary effort in this course is to bring to the attention of students the more prominent situations in which an attorney may be tempted to depart from standards of professional conduct and how such a departure is regarded by the Bench and the Bar. Attention is given to the following topics: supervision and discipline of lawyers; unauthorized practice of law; advertising; fees and charges; clients' confidential communications; representing conflicting interests; adverse interests of attorney and client; negligence, incompetence and mismanagement; clients' money; serving what clients by what means; relations of lawyers with judges, juries, witnesses and other lawyers; aiding unauthorized practice of law; the lawyer in private life. Students are required to read in full the *Canons of Judicial and Professional Ethics*. Hicks, *Ethics of the Bench and Bar*.

221. Municipal Corporations. I. 2 hr. State-city relations; municipal powers (zoning, appropriation of funds and contracts); municipal liabilities (contract and tort); municipal finance (debt limitation and special assessments). Stason, *Cases on Municipal Corporations*, 2d ed.

222. Negotiable Instruments. II. 3 hr. The law dealing with bills, notes, and checks is examined in conjunction with that concerning the relationship of banks with depositors and with other banks. The course aims to explain how our commercial credit arrangements operate and how claims based on such arrangements are created and protected. Aigler, *Negotiable Paper and Banking.*

224. Persons. I. 2 hr. The law pertaining to family, including marriage, annulment, divorce, alimony, custody, and other problems affecting persons in domestic relations. Compton, *Cases on Domestic Relations.*

225. Practice and Procedure. I. 4 hr. R. PR: Common Law Pleading. This course is confined almost entirely to a consideration of West Virginia statutes and decisions. It deals primarily, in chronological order, with the fundamental procedural phases of a common law action: issuing, requisites and service of process; appearances; default procedure; continuances; the right to a jury trial and the processes by which a jury is selected; trial by the court when a jury is waived; right to open and close; objections and exceptions, order of proof; nonsuits; discontinuances and retraxit; demurrers to the evidence; motions to direct verdict; instructions to juries; arguments of counsel; deliberations of the jury; verdicts; new trial and *venire facias de novo;* opening judgments and decrees; bills of exceptions; appellate procedure. Attention also is given to the statutory remedy of notice of motion for judgment, attachment, garnishment and suggestion. Special attention is given to the peculiar procedure applying to preliminary injunctions and, occasionally and briefly, to other phases of equity procedure.

226. Practice Court. II. 2 hr. R. PR: Common Law Pleading and Practice and Procedure. Students are given statements of facts, intended to approximate the information furnished by clients to counsel, on the basis of which counsel for plaintiffs are expected to select proper remedies and counsel for defendants are expected to interpose appropriate defenses. The court is called The University Court and performs the functions of a circuit court of the state. For purposes of venue, it may function as The University Court of any county in the state. Cases are litigated, from the issuance of process to final judgment or decree, as in actual practice. The presiding judges are judges of the various circuit courts and of the Supreme Court of Appeals of the state. Members of the class impersonate litigants and witnesses and serve as officers of the court.

227. Quasi Contracts. I. 3 hr. The general principles governing noncontractual obligations which, for purposes of remedy, are treated as if they were contractual obligations. Primarily, the remedy of assumpsit for the recovery of the monetary value of property, goods or services resulting in a pecuniary benefit to the defendant which it is unjust to retain. Benefits conferred under mistake, in the performance of a contract, in contracts within the Statute of Frauds, in contracts where further performance is impossible, in contracts which are illegal; benefits acquired under duress, under mistake of law, in the performance of the duty of another, and in the absence of any bargaining transaction between the parties; waiver of tort; analogous equitable relief by way of cancellation, reformation and specific restitution. Thurston, *Cases on Restitution.*

235. Public Utilities. II. 2 hr. This course deals chiefly with the control exercised by courts and commissions over public utility rates and services. Special attention will be given to problems in rate-making and in judicial review of rate regulations. Students will be required to prepare written papers as part of the work. Credit in the course will be based principally on the completion of an acceptable research paper. Selected matrials.

236. Real Property II. I, II. 6 hr. (a) Wills course. (b) Inter vivos transfers of real and personal property, outright and in trust; estate planning and practice; types and problems of future interests arising in construction of deeds and wills, especially gifts to classes, powers of appointment and the Rule against Perpetuities. Leach, *Cases and Text on the Law of Wills,* 2d ed.; *Selected Essays on Wills and Future Interests* (Harv. L. Rev.); Leach, *Cases and Materials on the Law of Future Interests,* 2d ed.

238. Sales. II. 3 hr. The course deals with the law respecting the transfer of goods for a price, characteristic security arrangements incident to such transfers, and

the rights, liabilities and remedies arising out of such transfers. The common law, the Uniform Conditional Sales Act, and other statutes of a kind in force in West Virginia are stressed although attention is also given to provisions of the Uniform Sales Act and relevant portions of the proposed Commercial Code. Lattin, *Cases on Sales.*

228. Secured Transactions. II. 3 hr. The course covers personal property security, suretyship, and real estate mortgages. It is designed to equip the lawyer to act as a business counsellor to those who extend personal and merchandise credit. Hanna, *Cases and Materials on Security,* re-edited 2d ed.

229. Taxation. I. 4 hr. R. The course deals primarily with state property taxes and the federal income tax. West Virginia materials on the former are examined in detail. Practice in using a tax service and in the solution of representative tax problems such as would arise in ordinary office practice supplement the consideration of the law of income taxation. Magill and Maguire, *Cases on Taxation,* 4th ed., and *Students Tax Law Service.*

231. Trusts. I. 4 hr. The nature of a trust, its creation and elements; the transfer of a beneficiary's interest; the administration of trusts; the termination and modification of the trust; charitable trusts; liabilities to and liabilities of third persons; resulting and constructive trusts. Scott, *Cases on Trusts,* 4th ed.

233. Wills. I. 1 hr. Problems arising in intestacy; statutory forced shares; execution, revocation and contest of wills; effect of extrinsic instruments and acts; results of mistakes and misdescriptions; lapse, ademption and satisfaction of gifts. Leach, *Cases and Text on the Law of Wills,* 2d ed., and *Selected Essays on Wills and Future Interests* (Harv L. Rev.).

SCHEDULE OF COURSES FOR 1956-57[2]

Casebooks or other materials to be used in the courses are indicated *supra* under *Description of Courses.*

FIRST YEAR

102. Common Law Remedies. I. 2 hr. R.	Mr. Lugar
103-4. Contracts. I. 6 hr. R.	Mr. Donley
105-6. Criminal Law and Procedure. II. 4 hr. R.	Mr. Mueller
210. Equity I. II. 3 hr. R.	Mr. Colson
108. Property. I, II. 6 hr. R.	Mr. Brown
109-10. Torts. I, II. 5 hr. R.	Mr. Highland
232. Use of Law Books. II. 1 hr. R.	Mr. Mueller

SECOND AND THIRD YEARS

111. Accounting for Lawyers. I. 2 hr.	Mr. Collins
201. Administrative Law. II. 4 hr.	Staff
202. Coal, Oil and Gas. II. 3 hr.	Mr. Donley
203. Common Law Pleading. II. 5 hr. R.	Mr. Lugar
204. Conflict of Laws. II. 3 hr.	Mr. Mueller
205. Constitutional Law. I. 4 hr.	Mr. Colson
206. Corporations. II. 4 hr.	Mr. Colson
207. Creditors' Rights. II. 2 hr.	Mr. Brown

[2]The schedule of courses as given here is subject to change.

208. Damages. II. 2 hr.	Mr. Collins
209. Drafting Legal Instruments. II. 1 hr.	Staff
210. Equity II. II. 3 hr. R.	Mr. Collins
212. Equity Pleading and Practice. II. 1 hr.	Mr. Lugar
213. Evidence. I. 4 hr. R.	Staff
214. Examination of Witnesses. II. 1 hr. R	Staff
215. Federal Courts. II. 3 hr.	Mr. Brown
219. Labor Law. II. 3 hr.	Staff
220. Landlord and Tenant. II. 3 hr.	Mr. Brown
221. Municipal Corporations. I. 2 hr.	Staff
222. Negotiable Instruments. II. 3 hr.	Staff
224. Persons. I. 2 hr.	Mr. Colson
225. Practice and Procedure. I. 4 hr. R.	Mr. Lugar
226. Practice Court. II. 2 hr. R.	Circuit Court Judges
227. Quasi Contracts. I. 3 hr.	Mr. Donley
228. Secured Transactions. I. 3 hr.	Mr. Collins
229. Taxation. I. 4 hr. R.	Mr. Collins
231. Trusts. I. 4 hr.	Mr. Colson
233. Wills. I. 1 hr.	Mr. Highland
235. Public Utilities. II. 2 hr.	Staff
236. Real Property II. I, II. 6 hr.	Mr. Highland
237. Legal Ethics. I. 1 hr.	Mr. Collins
238. Sales. II. 3 hr.	Staff
239. Business Associations. I. 3 hr.	Mr. Brown

The School of Medicine

I. Curriculum In Medicine

GENERAL INFORMATION

During the years from 1868 to 1912 the University offered courses in pre-clinical medical subjects, the scope and designation of the program changing from time to time. In the earlier years a course was scheduled in anatomy, physiology, and hygiene; and in later years the work had grown to include the first two years of a standard medical curriculum. From 1903 to 1911 the University maintained a College of Medicine, giving the M.D. Degree. The first two years were given in Morgantown. Credit for the last two years was accepted from the College of Physicians and Surgeons of Baltimore, to which students transferred at the end of their second year.

The School of Medicine as now organized had its beginning in 1912. Since that date it has given the first two years of the medical curriculum with no provision for students to transfer to any special school for the completion of their work until 1943, when an agreement was made with the Medical College of Virginia.

Medical Curriculum

FIRST AND SECOND YEARS

The School of Medicine now gives only the first two years of the medical curriculum. It is listed as a Recognized School of Basic Medical Sciences by the Council on Medical Education and Hospitals of the American Medical Association. It is also a member of the Association of American Medical Colleges. Inasmuch as only the first two years are given at West Virginia University, students must go elsewhere for the completion of the work for the M.D. Degree There are two possibilities as noted below.

THIRD AND FOURTH YEARS

The Medical College of Virginia. There is an agreement in operation with the Medical College of Virginia at Richmond for the transfer of as many as twenty-five students upon the completion of their second year at West Virginia University. At the Medical College of Virginia these students pay the same tuition as do residents of Virginia. Diplomas conferring the M.D. Degree are issued jointly by the two schools. The benefits of this agreement are available only to students who at the time of entering the medical curriculum had been residents of West Virginia for at least five years.

Other Medical Schools. In each class there are also some students who, by private arrangement, transfer to other medical schools of their own choice for the completion of the work.

Proposed Expansion of the School of Medicine

Recently the West Virginia Legislature made provision for the establishment of a four-year School of Medicine as well as Schools of Dentistry and Nursing. This means that an increased number of students will be accepted and that the M.D. degree will be granted.

A contract has now been let for the construction of the Basic Sciences Building which will house the pre-clinical departments of the School of Medicine as well as the Schools of Dentistry, Nursing, and Pharmacy. This building will be ready in the Fall of 1957, thus it is likely that an increased class of medical students will be accepted in 1957 or 1958.

Preliminary plans for a teaching hospital are now being prepared and when the unit is completed it will be possible for West Virginia to confer the M.D. degree.

Clinical and Special Facilities

The following institutions and agencies are co-ordinated effectively for the clinical needs of the School of Medicine.

Hopemont Sanitarium, at Hopemont, West Virginia, is approved by the American Medical Association for residency. It has approximately 400 beds primarily for pulmonary diseases, but a number of beds are set aside for other medical and surgical cases. The School of Medicine has access to this hospital for teaching purposes and the Superintendent and certain members of the staff become University officials. This arrangement provides an affiliation for instruction in clinical examination of patients.

Monongalia General Hospital and Vincent Pallotti Hospital, two local general hospitals with bed capacities of approximately 130 and 100 respectively, make their facilities available to the School of Medicine for teaching purposes by special arrangement between their administrative officers and the school.

Intramural Clinics. With the cooperation of members of the local medical profession, ambulatory cases are available for examination and demonstration.

Autopsy Service and Pathological Museum. Under an agreement with the coroner of Monongalia County, the Department of Pathology of the School of Medicine performs and records coroner's autopsies. Autopsies are available also for teaching purposes from the Vincent Palotti Hospital, Monongalia General Hospital, Hopemont Sanitarium, and the private practice of physicans of the area. This arrangement materially augments the pathological museum, which already numbers about 1,750 specimens, and affords opportunity for teaching in gross pathology and medical jurisprudence.

Buildings and Equipment

The three-story Medical Building furnishes room for most of the School of Medicine. On the first floor are the offices of the Dean, a general lecture room, a reading and study room, and the pharmacological laboratory. On the second floor are laboratories for bacteriology and physiology. On the third floor are laboratories for gross and microscopic anatomy, a large lecture room, and the X-ray room. All departments have appropriate offices, technical rooms, and storage space. Embalming and cadaver storage rooms are in the basement. Quarters for experimental animals are provided in separate buildings.

The biochemical laboratory occupies rooms in the Chemistry Building. The department office is Room 430; communicating with it are three rooms used as stock and preparation rooms and for research.

The Department of Pathology occupies rooms on the second floor of the University Health Center; a good-sized laboratory-lecture room and the necessary rooms for a museum, preparations, storage, offices, and private laboratories.

Library

The Medical Library is not organized as a separate unit but is housed in the University Library, where publications of prime importance to the students and faculty of the School of Medicine are to be found in close proximity to related biological and chemical publications. Purely chemical works, many of which are of interest in medicine, are housed in the Chemistry Building which is adjacent to the Library. Additional current issues of essential medical journals and periodicals of general scientific interest are conveniently available in the students' lounge in the School of Medicine.

There are about 18,000 catalogued volumes in the Library which constitute the medical collection. Roughly half of these are bound volumes of periodicals; the remainder are textbooks and monographs concerned with pre-clinical fields for the most part but comprising also better representative works in internal medicine, surgery, gynecology, obstetrics, public health, hygiene, and history of medicine. Certain other publications are available on bibliofilm, for which reading facilities are offered in the Library and in the Department of Bacteriology. The Library has a subscription list of over 150 leading medical journals. Various departments of the School of Medicine receive a number of special journals, and the Department of Bacteriology has accumulated a collection of over 8,000 papers on anaerobic bacteria in the form of reprints, photostatic copies, and bibliofilm copies.

The Library maintains an inter-library loan system whereby materials not contained in the Library may be borrowed from the Surgeon General's Library,

Library of Congress, or other libraries. Complete sets of various abstracting journals, including the Quarterly Cumulative Index Medicus, may be found in the general reading room of the Library. Library service is available to physicians of the state through loans of publications or through the furnishing of photostatic copies of articles.

The interests of the Medical Library are furthered by a full-time librarian who works in conjunction with a committee of the faculty of the School of Medicine.

Seminar

A seminar is attended by faculty and students of the School of Medicine on alternate Friday afternoons at 4 P.M. The program consists of presentation of various subjects of general interest, followed by discussion. At these meetings papers are presented by members of the faculty, the student body, and members of the medical profession not connected with the School. The papers deal with both preclinical sciences and various phases of the practice of medicine.

Organizations and Lectureships

ALUMNI ASSOCIATION

Graduates of the School of Medicine have a School of Medicine Alumni Association, devoted to the interests of students and graduates and to the encouragement of scientific and professional progress among its members and the medical profession generally.

JOHN NATHAN SIMPSON LECTURESHIP

In 1933 the West Virginia chapter of Phi Beta Pi medical fraternity instituted the John Nathan Simpson Lectureship, honoring John N. Simpson, first dean of the School of Medicine. An annual lecture is given by someone distinguished in medical research or practice.

Cost of a Year's Work

Textbooks and supplies will cost about $90 to $150 per academic year. Registration fees for residents are $264; for nonresidents, $700 per academic year. There is an annual breakage deposit of $10, part of which is usually returned at the end of the year. The total legitimate cost of a nine-month session for medical students in residence will range from $1,000 to $1,500 exclusive of traveling expenses. The School of Medicine furnishes microscopes for students without charge.

Loans and Part-time Employment

It frequently happens that students otherwise well qualified for the study of medicine are short of funds to defray necessary expenses. For the assistance of such students certain loans are available, some specifically for medical students, others available to students of all colleges in the University. For information about loans, inquiries should be made to Director Joseph C. Gluck, Committee on Prizes, Scholarships, and Loan Funds, West Virginia University, Morgantown.

A few part-time jobs are available on the general campus and in the School of Medicine. Concerning these, inquiries may be made to the Placement Bureau of the University or to the School of Medicine.

Living Accommodations

Medical students, as a rule, must find board and lodging in private dwellings in Morgantown, where the rates for accommodations suitable for medical students are usually somewhat higher than in the University dormitories. It is suggested that women contact the Office of the Dean of Women for information concerning off-campus housing, men may obtain such information from the Information Desk in the Administration Building. All arrangements with the landlady or landlord must be made personally by the student.

ADMISSION REQUIREMENTS

Requirements for admission to the School of Medicine of West Virginia University conform to standards of the Association of American Medical Colleges and the Council on Medical Education and Hospitals of the American Medical Association.

All applications for admission are passed upon by the Committee on Admissions of the School of Medicine, composed of members of the medical faculty. Admission is by recommendation of this committee and with the approval of the Dean of the School.

When to Apply for Admission

Application for admission in September 1957 should be made promptly upon completion of the school year 1955-56 (June 1956). Applications will be considered until the class is filled, but early application is very advantageous.

How to Apply for Admission

Application for admission must be made upon blanks which may be obtained from the Dean of the School of Medicine, West Virginia University, Morgantown, West Virginia. A small, unmounted photograph must accompany the application. The completed application should be returned promptly to the School of Medicine.

Credentials

Unless the applicant is a student at West Virginia University, he must ask the registrar of each college he has attended to send, directly to the School of Medicine, an official transcript of his work. The University cannot accept transcripts sent by the applicant himself. Records should include a statement of work in progress. Work subsequently completed should be promptly reported to the School of Medicine.

Re-Applications

Any applicant who is refused admission or who fails to enroll after acceptance, must reapply in the regular manner if he wishes consideration for a subsequent year.

High-School Credits Required

For admission to the School of Medicine the applicant must be a graduate of an accredited high school.

College Credits Required

The council on Medical Education and Hospitals of the American Medical Association publishes a list of about eight hundred colleges which have been approved by appropriate agencies for premedical education.

Applicants from other colleges will receive consideration based upon the merits of the individual case.

Credits submitted by applicants for work done elsewhere than at West Virginia University are evaluated by the Registrar of the University and must meet the general standards set by the University for acceptance of credits by transfer.

The applicant should present a broad general education including, whenever possible, a major in some field, not necessarily a natural science. The Committee on Admissions needs evidence of excellence of academic performance and steady progress toward a goal. An excess of credit hours or higher degrees does little to offset the disadvantage of low grades in securing admission to medical schools. The practice of repeating courses to raise the grade is discouraged. Applicants who have been subject to suspension from this or other medical schools can be admitted only in very exceptional cases and at the discretion of the Committee on Admissions.

The requirements outlined below may be met in either of two ways: First and preferably, by pursuing a course of study leading toward a Bachelor's degree with major and minor fields of the applicant's own choosing, or secondly, by following a more rigidly prescribed curriculum generally offered as a "Pre-Medical" curriculum.

The applicant must present credit from a college of recognized standing for at least 90 semester hours of work exclusive of military science and physical education.

These credits must include the following minimum requirements:

English Composition and Rhetoric ..... 6 *hr.*

Biological Sciences ..... 12 *hr.*

Must include 8 hours of General Zoology or 8 hours of General Biology. Comparative Vertebrate Anatomy is desirable, Vertebrate Embryology is sugggested.

Chemistry ..... 16 *hr.*

Must include inorganic chemistry and organic chemistry (aliphatic and aromatic.)

Physics ..... 8 *hr.*

Psychology ..... 3 *hr.*

Two years of modern foreign language is suggested.

Medical College Admission Test

The score on this test is used as one criterion of fitness for admission. The test is sponsored by the Association of American Medical Colleges and is given by the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey. Tests are announced for May and November of each year. It is of advantage to applicants to take the test in May, inasmuch as many acceptances will be issued before the November scores are available. Students should consult premedical advisers about making application more than a month in advance of the announced dates.

Personal Attributes

Careful consideration is given to those personal qualifications which have a bearing upon fitness of the applicant for the study and practice of medicine. Students must be at least 18 years of age at the time of entrance to the School of Medicine. Good health is a necessary qualification.

Recommendations

Applicants who are not students at West Virginia University should request the premedical adviser or, if there is none, two instructors in different science departments to send letters of recommendation to the School of Medicine. A letter from the family physician, clergyman, or some other individual who has known the applicant over a period of years is useful.

Notification of Applicants

All applicants will be informed of the action of the Committee on Admissions as promptly as possible after decisions are reached. The earliest acceptances will probably be issued in November or December.

Advance Deposit Fee

Each applicant is required to make a deposit of $25 before his name is entered upon the official list of registration in the School of Medicine. If the applicant enrolls in the School of Medicine this sum is applied to the tuition of the first semester. If the applicant fails to enter the School of Medicine this deposit fee is forfeited by the applicant. The deposit paid by students under the G.I. Bill of Rights will be refunded after the full tuition for the semester has been paid.

GENERAL RULES OF THE SCHOOL OF MEDICINE

Registration

All medical students are expected to register at the Medical Building on the days set apart for registration at the beginning of each semester as announced in the University calendar (see Part IV).

No student will be permitted to register in the School of Medicine after the first week of classes.

Persons who are not registered as students in the University and who are not members of the administrative or teaching staffs shall not be admitted to regular attendance in School of Medicine classes.

Students in other colleges, schools, or divisions of the University who wish to elect courses in the School of Medicine must satisfy the prerequisites for such courses and must receive permission from the Scholarship Committee and the professor in charge of the course.

Tuition and Other Fees

All fees are due and payable at the Comptroller's Desk in the Field House on the days of registration.[1] Fees paid after registration days must be paid at the Office of the Comptroller in the Administration Building.

	Residents	Non-Residents
Full-time students (per semester) Tuition	$87.00	$305.00
University Fees	45.00	45.00
Total	$132.00	$350.00
Part-time students (per semester hour)	8.00	26.00

Special fee for students not regularly enrolled in the School of Medicine or the College of Pharmacy, $4 per credit hour in addition to the fee charged in the college or school in which they are registered.

Breakage deposit (for year) $10.00

Breakage deposit for University students not regularly enrolled in medical school, for one laboratory course, $5, and for more than one course, $10.

Incomplete Courses

The grade of "I" is given when the instructor believes the work is unavoidably incomplete or that a supplementary examination is justifiable. If a grade of "I" is not removed within the next semester in which the student is in residence, by satisfactory completion of the work, it becomes a failure unless special permission to postpone the work is obtained from the Committee on Scholarship. (University Rule.)

For medical students the following schedule is established: Incomplete courses for the first semester should be completed by examinations or other specified work not later than the week immediately following Easter vacation.

Incomplete courses for the second semester of the first year should be completed not later than the first day of registration in the following September, in order that the eligibility of the student to enter the second year may be determined.

Completion of courses during the second semester of the second year shall be upon a schedule determined by agreement between the instructor concerned and the Scholarship Committee.

It is the responsibility of the student to consult the instructor about the means and schedule for making up incomplete courses.

Promotions and Suspensions

The Committee on Scholarship of the School of Medicine is responsible for administration of the following rules. Exceptions may be made only on recommendation of this Committee. The application of rules on suspension is not automatically changed by removal of "I" grades or by the repetition of courses in other medical schools. Permission for repetition of work in this medical school may be granted only by the Scholarship Committee.

1. Students must register for all courses scheduled for each semester.
2. A student who does not make passing grades in at least half of the registration hours in any semester is automatically suspended (University rule).
3. A student who during any two consecutive semesters does not attain a grade-point average of 1.5 for all courses for which he is registered, is thereby automatically suspended even though he may pass in all courses.
4. No student will be permitted to register for work of the second year until all courses for the first year have been successfully completed.

[1]Students who have not paid their fees before the close of office hours of the second Saturday following the opening of a semester or a summer term, shall be dropped from the rolls of the University, and the Registrar shall notify their instructors that their class cards are to be withdrawn.

Departure from Scheduled Work

Medical students must register for all prescribed courses for each semester except by special permission from the Scholarship Committee of the School of Medicine. This permission is not valid until it has been reported to the Registrar for record.

Immunizations

The School of Medicine requires that during the first semester of the first year all medical students must complete certain prescribed immunizations and diagnostic procedures. These are administered without charge by the University Health Service.

Withdrawals

A student who wishes to withdraw from a course or from the School of Medicine during the semester should do so in regular manner. Consult the Dean's office for steps which must be taken.

Curriculum Revision

The curriculum of the School of Medicine is constantly under study by a special committee and by all members of the faculty. In the interests of offering the best possible course of instruction, curriculum revisions are made from time to time.

DEGREES

The School of Medicine gives no degree in medicine except in cooperation with the Medical College of Virginia as noted on page 332.

Upon completion of the second year in the School of Medicine, students receive the *Bachelor of Science* Degree. At the end of the first year, those students who have met certain requirements of the College of Arts and Sciences in West Virginia University receive the *Bachelor of Arts* Degree.

Proficiency in English. The School of Medicine, in compliance with a recommendation of the University Senate, has adopted the following requirement:

"Each undergraduate must pass a proficiency examination in English after the beginning of his junior year in order to qualify for graduation. He shall take this examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as necessary."

This examination will be given by an English Proficiency Board named by the President of the University.

This regulation applies to all students who begin their college work after June 1, 1952. Students in Medicine and Medical Technology who have not satisfied this requirement must take this examination in their first semester of registration in the School of Medicine.

The *Master of Science* Degree is offered by certain departments of the School of Medicine. Properly qualified University graduate students are eligible. Medical students may work toward this degree by study during four summer terms (two full summers.) For fuller information consult the Chairman of the Committee on Graduate Studies in the School of Medicine or see the *Announcements of the Graduate School.*

Only a small number of graduate students can be accommodated in departments of the School of Medicine. Admission to the Graduate School of West Virginia University does not of itself assure permission to take courses in departments of the School of Medicine. Persons wishing to take any courses in the School of Medicine for graduate credit should consult the Chairman of Graduate Study in the School of Medicine and the department concerned well in advance of registration day.

COURSES OF INSTRUCTION

NOTE—Courses marked "*" are required of first-year students; those marked "†" are required of second-year students.

The following abbreviations are used in designating the semester during which these courses are offered, and also the credit hours of each course:

I—a course given in the first semester.
II—a course given in the second semester.
I, II—a semester course given in each semester.
Yr.—a continuous course extending through two semesters.
S—a course offered in the Summer Session.
hr.—number of credit hours per course.

For convenience each course is designated by the name of the department offering the course and the number of the course. The plan for numbering courses at West Virginia University is as follows:

Courses 1 to 99—offered primarily for freshmen and sophomores
Courses 100 to 199—offered primarily for juniors and seniors
Courses 200 to 299—advanced courses for juniors, seniors, and graduates
Courses 300 to 399—offered to graduates only

In addition to required courses there are listed some elective courses for the benefit of other University students who may need them. They are given only when, in the opinion of the department concerned and of the Dean, it is considered advisable. If there should arise a demand for any of these courses, the School of Medicine will try to meet the need, but the schedule will be contingent upon the extent to which staff members are occupied with the required medical courses. For full information, see *Announcements of the Graduate School.*

ANATOMY

Professor CHANDLER; Associate Professor WILLIAMS; Instructors HYDE and BALL

201.* GROSS ANATOMY. I. 6 hr. PR: General Zoology. Comparative Anatomy and Embryology desirable. Gross structure of the human body, including pertinent aspects of embryonic development. Lecture, 2 hr. per week; lab. 7 hr.

202.* GROSS ANATOMY. II. 5 hr. PR: Anatomy 201. Continuation of Anatomy 201. Lecture, 3 hr. per week; lab., 7 hr.

203.* NEUROANATOMY. II. 5 hr. PR: Anatomy 201. The gross and microscopic structure of the nervous system with notes on its embryonic development. 3 hr. per week; lab. 6 hr.

205.* MICROSCOPIC ANATOMY. I. 6 hr. PR: Zoology 1, 2 or acceptable substitute. The minute anatomy and functional aspects of tissues and organs, with brief reviews of their embryonic development. Lecture, 3 hr. per week; lab., 9 hr.

BACTERIOLOGY AND PUBLIC HYGIENE

Professor SLACK; Assistant Professors SPEARS and HARRELL; Lecturer DYER; Assistant PAVELECH

220. PATHOGENIC BACTERIOLOGY. II, S. 5 hr. PR or Conc.: Chemistry 131 (Organic Chemistry). For students in Medical Technology and Pharmacy. Detailed study of microorganisms with emphasis on those causing human diseases. Lecture, 2 hr. per week; lab., 8 hr. Graduate students required to do 1 hr. additional work per week for 5 hr. credit.

221.† MEDICAL BACTERIOLOGY. I. 6 hr. PR or Conc.: Chemistry 233, 238 (Organic Chemistry), Biochemistry 231 desirable. Detailed study of pathogenic microorganisms, including morphology, physiology, identification and mechanisms of disease production, as well as response of the body to bacterial diseases. Lecture, 3 hr. per week; lab., 9 hr.

222.† PUBLIC HYGIENE. II. 2 hr. PR: Consent of instructor. Introduction to the principles of public health. Lecture 2 hr. per week.

224. DIAGNOSTIC BACTERIOLOGY. I, II, S. 3 hr. Hours to be arranged. PR: Bacteriology 221 or equivalent. Application of cultural, serological and animal methods as aids to the diagnosis of human diseases.

226, 227. SPECIAL PROBLEMS IN BACTERIOLOGY. I, II, S. 2-5 hr. per semester. Hours to be arranged. PR: Bacteriology 221 or equivalent.

320, 321. Advanced Bacteriology. I, II, S. 2-5 hr. per semester. Hours to be arranged. PR: Bacteriology 221 or equivalent. Advanced theoretical and practical studies in the fields of bacterial physiology, immunology, fungi, rickettsiae, and viruses. Graduate students only.

323, 324, 325, 326. Research in Bacteriology. I, II, S. 1-6 hr. per semester. Hours to be arranged. PR: Bacteriology 221, 320 or equivalent.

BIOCHEMISTRY

Professor Krause; Assistant Professor Gangloff; Assistants Sanders and Farley.

139. General Biochemistry. II. 4 hr. PR: Inorganic and organic chemistry. Quantitative analysis desirable For students in Home Economics and Medical Technology. Open to other qualified students.

230. Applied Biochemistry. S. 2 hr. PR: Inorganic and organic chemistry. Primarily for high-school teachers. Not for graduate chemistry majors. An introduction to some of the practical chemical reactions which are carried out by living organisms with special reference to man.

231.* Medical Biochemistry. I. 7 hr. PR: Chemistry 233, 238 (Organic Chemistry). Lecture, 4 hr. per week; lab. 8 hr.

237, 238. Seminar in Biochemistry. I, II. 1 hr. per semester. PR or Conc.: Biochemistry 231. Presentation and discussion of special topics.

330, 331. Biochemical Preparations. I, II, S. 2-5 hr. Arranged. PR: Biochemistry 231 or equivalent. Emphasis on biochemical methods.

333, 334, 335, 336. Research in Biochemistry. I, II, S. 1-6 hr. Arranged. PR: Biochemistry 231 or equivalent.

HISTORY OF MEDICINE

Professor Chandler

275.† History of Medicine. I. 1 hr. A brief history of the development of the science and art of medicine. Lecture, 1 hr. per week.

MEDICINE

Associate Professors Sleeth and Lawless; Assistant Professors Maxwell, Whittlesey, Starkey and Tait; Instructor Johnson

277.* Correlation Clinic. I. 1 hr. Practical demonstrations of the relation of the basic sciences to clinical medicine using the case method. Members of the various basic science departments participate along with the Department of Medicine.

278.* Correlation Clinic. II. 1 hr. A continuation of Medicine 277.

291.† Physical Diagnosis. I. 2 hr. Lecture and demonstration of the technique of taking clinical histories and performing physical examinations.

292.† Physical Diagnosis. II. 1 hr. Practical experience in examination of normal and abnormal subjects.

293.† Introductory Medicine. I. 1 hr. Lectures and demonstrations of patients exhibiting the cardinal manifestations of disease and specific disease entities.

294.† Introductory Medicine. I. 1 hr. A continuation of Medicine 293.

OBSTETRICS

Professor Van Liere

291.† Obstetrics. II. 2 hr. PR: Anatomy 201, 202 (Human Anatomy), Physiology 242, 243, and Pathology 251. An introductory course in obstetrics. Lecture, 2 hr. per week.

PATHOLOGY

Professor Hobbs; Assistant Professor Harley; Instructors Ehrgott, Love, and Carone

150. Elementary Histology. I. 3 hr. A study of the elements of histological structure, including blood. Lecture, 2 hr. per week; laboratory 3 hr. Required of students in Medical Technology. Other students as approved by the department.

151. Clinical Laboratory Diagnostic Methods. II. 4 hr. Study of blood, exudates, transudates, gastric contents, urine, etc. Lecture, 2 hr. per week; lab. 6 hr. Required of students in Medical Technology. Other students as approved by department.

251.† General and Tumor Pathology. I. 6 hr. PR: approval of department head. Includes both gross and microscopic studies with demonstrations. Lectures, 4 hr. per week; lab., 10 hr.

252.† Special Pathology. II. 3 hr. PR: approval of department head. A study of special diseases with gross and microscopic specimens from selected autopsies. Lecture, 1 hr., lab., 2 hr. per week during first half of semester; lecture 2 hr. per week, lab., 2 hr. during second half of semester.

254.† Clinical Pathology. II. 3 hr. PR: approval of department head. A laboratory course in blood, gastric contents, urine, etc., and their pathological and clinical significance. Lecture, 2 hr. per week, lab., 4 hr. during first half of semester; lecture, 3 hr. per week, lab., 7 hr. during second half of semester.

256. Advanced Pathology. I or II. 3 hr. PR: Pathology 251. Microscopic and gross specimens from selected autopsies. Open to properly qualified students.

351. Experimental Pathology. I or II. 2-5 hr. Hours to be arranged. Open to properly qualified students.

PHARMACOLOGY

Professor Watts; Assistant Professors McKinney and Saxe; Lecturer Tucker

160. Fundamentals of Pharmacology. I. 5 hr. PR: Physiology 141. For students in the College of Pharmacy. Lecture, 4 hr. per week; laboratory, 3 hr.

262.† Medical Pharmacology. II. 6 hr. PR: Physiology 141 or 242. Origin, chemistry, pharmacodynamics, toxicology, therapeutic use and dosage of drugs commonly used in man and animals with emphasis on the fundamental mechanisms of drug action. Lecture, 5 hr. per week; lab., 6 hr. per week.

266. Biochemorphology. II. 2 hr. PR: Pharmacology 262, or Chemistry 238 or 277. Relation between chemical constitution and physiological action of medical agents. Lecture.

360, 361. Bioassay and Comparative Pharmacology. I, II, S. 3 hr. per semester. PR: Pharmacology 262; or Chemistry 238 or 277 and Histology 205; or Pharmacy 110. Cellular pharmacodynamics and comparative mammalian pharmacology. Species differences in response to drugs. Development of technique in bioassays employed for control by the pharmaceutical industry.

362, 363. Advanced Pharmacology. I, II, S. 2-5 hr. per semester. Hours to be arranged. PR: Pharmacology 360. Rational investigation of new drugs and comparison with presently used clinic drugs.

364. Toxicology. I, II, S. 1 hr. PR: graduate status in pharmacology or chemistry. Toxic effects of industrial chemicals and drugs. Allowable concentrations in industry, and antidotal measures.

365. Anesthesiology. I, II, S. 3 hr. PR: Physiology 243. Production of surgical anesthesia in man and animals. General anesthetic agents and procedures, additional agents for proper control of anesthesia, and care of the anesthetized individual.

366, 367, 368, 369. Research in Pharmacology. I, II, S. 1-6 hr. per semester. PR: graduate status in physiology, chemistry, or agriculture. Determination of biological activity or toxicity of chemicals that may be used for drugs, solvents, insecticides, or poisons.

PHYSIOLOGY

Professors Northup and Van Liere; Associate Professor Stickney; Assistant Professor Lindsay

141. Elementary Physiology. I. 4 hr. PR: Biology 1, 2 or Zoology 1, 2; PR or concurrent: Chemistry 131 (Organic Chemistry). For students in Pharmacy and Medical Technology. Lecture, 3 hr. per week; lab., 3 hr. per week.

241.* Physiology. II. 9 hr. PR: Zoology 231 (Comparative Anatomy), Biochemistry 231. Physiology for Medical Students. Lecture, 7 hr. per week; laboratory, 8 hr.

244, 245. Special Topics. Yr. 2-5 hr. PR: Physiology 242 or 243.

246. Seminar in Physiology. No credit.

340, 341. Advanced Physiology of Circulation and Respiration. Yr. 2-5 hr. Hours to be arranged. PR: Physiology 243. Historical review, advanced topics and latest developments in the physiology of circulation and respiration.

342. Physiology of Gastro-intestinal System. II. 2-5 hr. Hours to be arranged. PR: Physiology 243. Historical review, advanced topics and latest developments in the physiology of the digestive tract.

343, 344. Nervous Physiology and Special Senses. Yr. 2-4 hr. Hours to be arranged. PR: Physiology 242 and 243, Psychology 1 or Neuroanatomy 203. Historical review, advanced topics and latest developments in the physiology of the nervous system and the organs of special sense.

345. Endocrinology. I. 2-5 hr. Hours to be arranged. PR: Physiology 243. Historical review, advanced topics and latest developments in physiology of the endocrines.

346, 347, 348, 349. Research in Physiology. Yr. 1-6 hr.

SURGERY

Associate Professor C. B. Pride; Instructor M. Pride; in cooperation with members of the Department of Anatomy.

281..† Principles of Surgery and Surgical Anatomy. I. 2 hr. Lecture and demonstration of the importance of Anatomy to clinical surgery.

282.† Principles of Surgery. II. 1 hr. Demonstration of clinical cases and operative techniques.

II. Curriculum in Medical Technology

GENERAL INFORMATION

The curriculum in Medical Technology leads to the degree of Bachelor of Science (Medical Technology). This curriculum prepares students to serve as technicians in hospitals, clinics, research laboratories, etc., and in offices of private physicians.

Training standards for laboratory technicians are under general supervision of the Council on Medical Education and Hospitals of the American Medical Association, which inspects, evaluates, and approves schools. This School is included in the list of those approved by the American Medical Association. In this field, properly qualified persons, upon passing the required examinations, may be certified by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists.

The technical training in Medical Technology, leading to the Bachelor of Science Degree, occupies two years. Admission to this curriculum is based upon two years of collegiate work, including the required subjects, as fully described below. This work may be taken in any institution of recognized standing. The College of Arts and Sciences of West Virginia University offers a pretechnology program under the supervision of the premedical adviser. Four years in all are required for the degree.

In the third and fourth years the student is under the jurisdiction of the School of Medicine, but no course taken during these years may be counted toward the M.D. Degree.

The work of the last year is largely individual in nature, carried on in laboratories and hospitals. The students are considered as temporary members of the laboratory staff and are subject to the usual regulations and discipline of the regular staff. This work occupies one entire calendar year of twelve months.

Committee on Medical Technology

M. L. Hobbs (Professor of Pathology and Clinical Pathology), *Chairman*
R. F. Krause (Professor of Biochemistry)
R. G. Spears (Assistant Professor of Bacteriology)
E. J. Van Liere (Dean of the School of Medicine)

REQUIREMENTS FOR ADMISSION

For admission to the curriculum in Medical Technology, the applicant must have graduated from high school and present at least 15 units of high school work acceptable to the University. In addition, one unit of plane geometry is desirable.

College Credits Required

Two years of college work with a total of 67 hours, exclusive of military science,* as specified below:

English. 12 semester hours. (Must include 6 hours composition and rhetoric and 6 additional hours in literature.)

Modern Foreign Language. 12 hours.

Biological Science. 8 hours. (General Zoology or General Biology are acceptable.)

Chemistry. 16 hours. (Inorganic Chemistry, 8 hours; Quantitative Analysis, 4 hours; Organic Chemistry, 4 hours.)

Physics. 8 hours.

Physical Education. 4 hours for women, 2 hours for men. (University requirements for students taking first two years in residence.)

Electives to complete the required hours Electives should be in fields not covered in the required subjects. Algebra is strongly recommended. Students should avoid subjects included in the work of the third year, such as bacteriology, organic chemistry or comparative anatomy.

Other Qualifications

Only a limited number of students can be accommodated in the Curriculum in Medical Technology. Completion of the two-year pretechnology program outlined above does not of itself assure admission to the third year for the technical training. Students wishing to be considered for this work should make application upon forms obtainable from the School of Medicine. These must be presented at the Office of the Dean of the School. Application should be made in February of the second pretechnology year and they will be considered after April 1. At the time of making application the student, unless in residence at West Virginia University, should request the registrar of his college to send an official transcript of his work to the School of Medicine.

Admission is on recommendation of the Committee on Medical Technology and with the approval of the Dean of the School of Medicine.

*Two years of Military Science and Tactics or Air Science is required of all freshmen and sophomore men at West Virginia University, unless exempt by the provisions listed on page 18.

Preference is given to residents of West Virginia. Scholarship and general fitness are considered in making selection of students. Applicants from other institutions should request letters of recommendation from two responsible faculty members who are qualified to write concerning them.

Immunizations

The School of Medicine requires that during the first semester of the first year all students in Medical Technology must complete certain prescribed immunizations and diagnostic procedures. These are administered without charge by the University Health Service.

Fees

Students in Medical Technology pay the following fees: $70 per semester for residents of West Virginia and $245 for non residents; for the summer of the senior year $4 per credit hour for residents and $8 per credit hour for nonresidents. There is a breakage deposit of $10 payable at the beginning of the final semester. Students not registered in the School of Medicine or the College of Pharmacy pay $4 per credit hour for courses taught by members of the medical faculty in addition to the regular fee for the college in which registered.

REQUIREMENTS FOR THE DEGREE

The degree, Bachelor of Science (Medical Technology), will be given upon completion of the curriculum outlined below.

The administration of scholarship standards is in charge of the Committee on Medical Technology. The following rules apply:

A student who does not make passing grades in at least half of the registration hours during any semester is automatically suspended. (General University rule.)

Eligibility to begin work of the fourth year is contingent upon the demonstration of personal aptitude for this work and upon full completion of the curriculum of the third year with a grade-point average of 1.5 per registration hour.

JUNIOR YEAR

During the third and fourth years the student is under the jurisdiction of the School of Medicine. This part of the curriculum is open only to students approved by the Committee on Medical Technology.

During this year, students must take the University examination to test proficiency in English, unless this requirement has been satisfied previously.

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Pathogenic bacteriology (220)	5	Elementary physiology (141)	4
Comparative anatomy (231)	5	General biochemistry (139)	4
Histology 150	3	Parasitology (255)	4
Biochemistry	arr.	Clinical laboratory diagnostic methods (151)	4

SENIOR YEAR

Work of the fourth year consists of practical experience under careful supervision in laboratories and hospitals. At present this training is given in the Department of Pathology of West Virginia University, the State Hygiene Laboratory, the Charleston General Hospital, and Fairmont General Hospital. The work covers the subjects listed below although these separate fields of training cannot be given in sequence as separate courses. This work continues throughout an entire calendar year. Students register in the University for a Summer Session (about 15 weeks) in addition to two regular semesters.

The professional courses required of fourth-year students follow:

100. Laboratory Practices. Summer term. 1 hr. Based upon the experience of the initial summer of the fourth year.

101. Applied Bacteriology. Yr. 4 hr. Methods of sterilization, preparation of culture media and vaccines, staining and study of bacteria, etc.

102. Applied Parasitology. Yr. 2 hr. Examination of feces for parasites and ova and of blood smears for parasites of the blood.

103. Applied Serology. Yr. 4 hr. Agglutination, precipitation, and complement fixation tests in serodiagnosis of syphilis and other diseases.

104. Clinical Chemistry. Yr. 3 hr. Chemical examination of urine, blood, gastric contents, and spinal fluid for abnormal constituents and increased or decreased amounts of normal constituents.

105. Electrocardiography. Yr. 2 hr. Study of the electrocardiographic machine and its practical employment on patients.

106. Metabolimetry. Yr. 2 hr. Study of the metabolism of carbohydrates, proteins, fats, minerals, etc., and the technique of basal metabolism.

107. Microtechnique. Yr. 3 hr. Histological technique including paraffin, celloidin, and frozen sections with routine and special staining procedures.

108. Normal Hematology. Yr. 4 hr. Methods of obtaining blood, hemoglobin determinations, enumeration of erythrocytes, leucocytes, and blood platelets; study of stained blood films, etc.

109. Special Hematology. Yr. 3 hr. Study of blood dyscrasias, hemorrhagic diseases, blood groups, etc.

110. Record Keeping. Yr. 3 hr. Study of laboratory and hospital forms with proper methods of recording findings and filing laboratory reports.

111. Urine Analysis. Yr. 5 hr. Clinical examination of normal and abnormal urines including general characteristics, qualitative and quantitative chemical analyses. microscopic studies, renal-function tests, etc.

The Division of Military Science and Tactics and Air Science

Professors Gilbert and Payne; Associate Professors Shrewsbury, Upchurch, Beck, Boswell, Carleton, Curry, Kent, Baxter, Benchea, Benoit, Book, Clark, Gigante, Tuck and Lippard; Instructors Croenne, Ewers, Haley, Hawethorne, Jones and Davis.

BASIC COURSE—FIRST YEAR

Military Science 1. 2 hr. 3 hr. per week. School of the Soldier and Exercise of Command, Organization of the Army and ROTC, Individual Weapons and Marksmanship, American Military History.

Military Science 2. 2 hr. 3 hr. per week. School of the Soldier and Exercise of Command, Individual Weapons and Marksmanship, American Military History.

Air Science 1. 2 hr. 3 hr. per week. Introduction to Aviation; Fundamentals of Global Geography; Basic Military Training.

Air Science 2. 2 hr. 3 hr. per week. International Tensions and Security Organizations; Military Instruments of National Security; Basic Military Training.

BASIC COURSE—SECOND YEAR

Military Science 3. 2 hr. 3 hr. per week. School of the Soldier and Exercise of Command, Map and Aerial Photograph Reading, Crew-Served Weapons and Gunnery.

Military Science 4. 2 hr. 3 hr. per week. School of the Soldier and Exercise of Command, Map and Aerial Photograph Reading, Crew Served Weapons and Gunnery.

Air Science 3. 2 hr. 3 hr. per week. Elements of Aerial Warfare; Careers in USAF; Leadership Laboratory; Cadet Non-Commissioned Officer Training.

Air Science 4. 2 hr. 3 hr. per week. Continuation of subjects taught during first semester.

ADVANCED COURSE—THIRD YEAR

Military Science 105. 3 hr. 5 hr. per week. School of the Soldier and Exercise of Command, Organization, Functions and Missions of the Arms and Services, Small Unit Tactics and Communications.

Military Science 106. 3 hr. 5 hr. per week. School of the Soldier and Exercise of Command; Small Unit Tactics and Communications, Leadership, Military Teaching Methods.

Air Science 105. 3 hr. 5 hr. per week. AF Command and Staff; Problem Solving Techniques; Communications Process and AF Correspondence; Military Law, Courts and Boards; Leadership Laboratory.

Air Science 106. 3 hr. 5 hr. per week. Applied Air Science; Aircraft Engineering; Navigation; Weather; AF Base Function; Leadership Laboratory.

ADVANCED COURSE—FOURTH YEAR

Military Science 107. 3 hr. 5 hr. per week. School of the Soldier and Exercise of Command, Command and Staff, Estimate of the Situation and Combat Orders, Military Intelligence, The Mililtary Team, Training Management .

MILITARY SCIENCE 108. 3 hr. 5 hr. per week. School of the Soldier and Exercise of Command, Supply and Evacuation, Troop Movements, Motor Transportation, Military Administration, Military Justice, Role of the U.S. in World Affairs and Present World Situation, Leadership, Officer Indoctrination.

AIR SCIENCE 107. 3 hr. 5 hr. per week. Summer Camp critique; Principles of Leadership and Management (Seminar); Career Guidance; Military Aspects of World Political Geography; Leadership Laboratory.

AIR SCIENCE 108. 3 hr. 5 hr. per week. Continuation of Military Aspects of World Political Geography; Military Aviation and Art of War; Briefing for Commissioned Service; Leadership Laboratory.

The School of Music

GENERAL INFORMATION AND DEGREE REQUIREMENTS OF THE SCHOOL OF MUSIC

The School of Music of West Virginia University is a member of the National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this bulletin are in accordance with the published regulations of that organization.

The School of Music is housed in a magnificent new building. Constructed at a cost of over one million dollars, the building is completely modern in every respect, with special attention to acoustical problems throughout.

Included among its facilities are 17 teaching studios, 30 practice rooms, band and orchestra rehearsal room, 3 classrooms, student lounge with adjoining kitchen, library room, 4 listening rooms, instrumental repair and storage rooms, recital hall (seating approximately 400), dressing rooms, projection and recording room, and administrative offices.

The School maintains a symphony orchestra, a concert and marching band, a mixed chorus, a women's glee club and a men's glee club, as well as numerous small ensembles. Many concerts are given during the year by the School of Music, and in addition a number of outstanding concerts are provided by the University Convocation Committee and the Morgantown Community Concert Association. Morgantown's close proximity to Pittsburgh makes that city's musical events available to University students.

The Undergraduate Degree

The Bachelor of Music Degree is conferred upon any student who complies with the general regulations of the University concerning degrees, satisfies all entrance and departmental requirements, and completes one of the following curricula in music with an average of two grade points per semester-hour:[1]

A. Piano, pipe-organ, voice, band or orchestral instrument
B. Theory and composition
C. Public school music

Before graduation, all candidates for the degree Bachelor of Music must demonstrate the required proficiency in playing at sight piano accompaniments of moderate difficulty, and they must have performed in a minimum of four Student Recitals.

Committees

Scholarship: Professor Hart, chairman; Associate Professors Wood and Brown, and Assistant Professor McGregor.

Concerts and Recitals: Assistant Professor McEnney, chairman; Professor Hart, Associate Professor Wood, Assistant Professors Manning and McGregor.

[1]Grade points in excess of those earned for credit of 8 hours in Glee Club, Chorus, Orchestra, and Band will not be counted towards requirements for graduation.

CURRICULUM IN APPLIED MUSIC

Leading to the Degree of Bachelor of Music in Piano, Pipe-Organ, or in any of the Wind or String Instruments

Course Requirements

Music

	Hr.		Hr.
Applied Music Major	32	M. 183 Conducting	3
Applied Music Minor	16	M. 240 and 241, History of Music (3 hr. ea.)	6
M. 1, 2, 3, 4, Theory (4 hr. each)	16	M. 281 Survey of Symphonic Music	2
M. 107 Analysis of Musical Form	3	Glee Club, Chorus, Band, or Orchestra	4
M. 109 and 110, Counterpoint (2 hr. ea.)	4	Music Electives	6
M. 113 and 114, Composition (2 hr. ea.)	4	M. 199 Recital	2
M. 117 Instrumentation, and M. 118 Orchestration or M. 119 Band Arranging (2 hr. each)	4	Total	102

Academic

	Hr.		Hr.
Foreign Language (French, German or Italian)	6	Military or Air Science (Men)	8
English	12	Electives	10
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.)		Women	32
English 18 or English 21 (Communications) (3 hr.)			
English 3, 4, 5, or 6 (3 hr.)		Men	38
Phys. Ed. (2 hr. Men, 4 hr. Women)	2-4		

Courses By Years

FRESHMAN

First Sem.	Hr.	*Second Sem*	Hr.
Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2
M. 1	4	M. 2	4
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
English 1	3	English 2	3
Phys. Ed.	1	Phys. Ed.	1
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
(W)	17	(W)	17
Mil. or Air Sci. 1 (men)	2	Mil or Air Sci. 2 (men)	2
(M)	19	(M)	19

SOPHOMORE

First Sem.	Hr.	*Second Sem*	Hr.
Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2
M. 3	4	M. 4	4
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
Eng. 18 or 21 (Comm.)	3	Eng. 3, 4, 5, or 6	3
Phys. Ed. (W)	1	Phys. Ed. (W)	1
Elective	2	Elective	2
(W)	16	(W)	16
Mil. or Air Sci. 3 (men)	2	Mil. or Air Sci. 4 (men)	2
(M)	17	(M)	17

JUNIOR

First Sem.	Hr.	*Second Sem*	Hr.
Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2
M. 107	3	M. 110	2
M. 109	2	Music elec.	4
Music. elec.	2	Glee, Cho., Band, or Orch.	1
Glee, Cho., Band, or Orch.	1	Elective	3
Elective	3		
	17		16

SENIOR

First Sem.	Hr.	*Second Sem*	Hr.
Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2
M. 113	2	M. 114	2
M. 117	2	M. 118 or 119	2
M. 183	3	M. 199	2
M. 240	3	M. 241	3
M. 281	2	Glee, Cho., Band, or Orch.	1
Glee, Cho., Band, or Orch.	1		
	19		16

CURRICULUM IN APPLIED MUSIC

Leading to the Degree of Bachelor of Music in Voice

Course Requirements

Music

	Hr.		
Voice	32	M. 113 and 114, Composition (2 hr. each)	4
Piano	16	M. 117 Instrumentation, and M. 118 Orchestration or M. 119 Band Arranging (2 hr. each)	4
M. 1, 2, 3, 4, Theory (4 hr. each)	16	M. 183 Conducting	3
M. 107 Analysis of Musical Form	3	M. 240 and 241, History of Music (3 hr. each)	6
M. 109 and 110, Counterpoint (2 hr. ea.)	4	Glee Club or Chorus	4
M. 280 Survey of Operatic Music	2	M. 199 Recital	2
			96

Academic

	Hr.		*Hr.*
Foreign Language (French, German or Italian)	12	Military or Air Science (Men)	8
English	12	Electives	10
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.)		Women	38
English 18 or English 21 (Communications) (3 hr.)			
English 3, 4, 5, or 6 (3 hr.)		Men	44
Phys. Ed. (2 hr. Men, 4 hr. Women)	2-4		

Courses By Years

FRESHMAN

First Sem.	*Hr.*	*Second Sem*	*Hr.*
Voice	4	Voice	4
Piano	2	Piano	2
M. 1	4	M. 2	4
Glee or Cho.	0	Glee or Cho.	0
English 1	3	English 2	3
Phys. Ed.	1	Phys. Ed.	1
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
(W)	17	(W)	17
Mil. or Air Sci. 1 (men)	2	Mil or Air Sci. 2 (men)	2
(M)	19	(M)	19

SOPHOMORE

First Sem.	*Hr.*	*Second Sem*	*Hr.*
Voice	4	Voice	4
Piano	2	Piano	2
M. 3	4	M. 4	4
Glee or Cho.	0	Glee or Cho.	0
Fr., Ger., or Ital.	3	Phys. Ed. (W)	1
Phys. Ed. (W)	1	Fr., Ger., or Ital.	3
Elective	2	Elective	2
(W)	16	(W)	16
Mil. or Air Sci. 3 (men)	2	Mil. or Air Sci. 4 (men)	2
(M)	17	(M)	17

JUNIOR

First Sem.	*Hr.*	*Second Sem*	*Hr.*
Voice	4	Voice	4
Piano	2	Piano	2
M. 107	3	M. 110	2
M. 109	2	M. 280	2
Eng. 18 or 21 (Comm.)	3	Eng. 3, 4, 5, or 6	3
Glee or Cho.	1	Glee or Cho.	1
Elective	3	Elective	3
	18		17

SENIOR

First Sem.	*Hr.*	*Second Sem*	*Hr.*
Voice	4	Voice	4
Piano	2	Piano	2
M. 113	2	M. 118 or 119	2
M. 117	2	M. 114	2
M. 183	3	M. 241	3
M. 240	3	M. 199	2
Glee or Cho.	1	Glee or Cho.	1
	17		16

CURRICULUM IN THEORY AND COMPOSITION

*Leading to the Degree of Bachelor of Music in Theory and Composition**

Course Requirements

Music

	Hr.		Hr.
Applied Music	40	M. 183 Conducting	3
Instrument Classes	4	M. 186 and 187, Composition (2 hr. ea.)	4
M. 1, 2, 3, 4, Theory (4 hr. each)	16	M. 240 and 241, History of Music (3 hr. each)	6
M. 107 Analysis of Musical Form	3	M. 280 Survey of Operatic Music	2
M. 109 and 110, Counterpoint (2 hr. ea.)	4	M. 281 Survey of Symphonic Music	2
M. 113 and 114, Composition (2 hr. ea.)	4	M. 198 Original Major Work in Composition	2
M. 117 Instrumentation, M. 118 Orchestration, and M. 119 Band Arranging (2 hr. each)	6	Glee Club, Chorus, Band, or Orchestra	4
			100

Academic

	Hr.		Hr.
Foreign Language (French, German or Italian)	12	Phys. Ed. (2 hr. Men, 4 hr. Women)	2-4
English	12	Military or Air Science (Men)	8
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.)		Elective	4
English 18 or English 21 (Communications) (3 hr.)		Women	32
English 3, 4, 5, or 6 (3 hr.)		Men	38

Courses By Years

FRESHMAN

First Sem.	Hr.	*Second Sem*	Hr.
Applied	6	Applied	6
M. 1	4	M. 2	4
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
English 1	3	English 2	3
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
Phys. Ed.	1	Phys. Ed.	1
(W)	17	(W)	17
Mil. or Air Sci. 1 (men)	2	Mil or Air Sci. 2 (men)	2
(M)	19	(M)	19

SOPHOMORE

First Sem.	Hr.	*Second Sem*	Hr.
Applied	6	Applied	6
M. 3	4	M. 4	4
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
Eng. 18 or 21 (Comm.)	3	Eng. 3, 4, 5, or 6	3
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
Phys. Ed. (W)	1	Phys. Ed. (W)	1
(W)	17	(W)	17
Mil. or Air Sci. 3 (men)	2	Mil. or Air Sci. 4 (men)	2
(M)	18	(M)	18

JUNIOR

First Sem.	Hr.	*Second Sem*	Hr.
Applied	4	Applied	4
M. 107	3	M. 110	2
M. 109	2	M. 114	2
M. 113	2	M. 118	2
M. 117	2	M. 280	2
Glee, Cho., Band, or Orch.	1	Glee, Cho., Band, or Orch.	1
Inst. Class	1	Inst. Class	1
Elective	2	Elective	2
	17		16

SENIOR

First Sem.	Hr.	*Second Sem*	Hr.
Applied	4	Applied	4
M. 183	3	M. 119	2
M. 186	2	M. 187	2
M. 240	3	M. 198	2
M. 281	2	M. 241	3
Inst. Class	1	Glee, Cho., Band, or Orch.	1
Glee, Cho., Band, or Orch.	1	Inst. Class	1
	16		15

*In order to be approved for candidacy in this field at the beginning of the Junior year, a student working toward the degree of Bachelor of Music in Theory and Composition must have maintained at least an average of "B" in all Theory courses required in the Freshman and Sophomore years, and he must have attained and demonstrated the required proficiency in Piano.

CURRICULUM IN PUBLIC SCHOOL MUSIC

Leading to the Degree of Bachelor of Music in Public-school Music

Course Requirements

Music

	Hr.		Hr.
Applied Music	32	M. 183 Conducting	3
Major (Minimum) 16 hr.		M. 185 Public School Music	3
Minor (Minimum) 6 hr.		M. 181 Instumental Techniques or	
Instrument classes 5 hr.		M. 182 Choral Techniques	2
Electives*	6	M. 240 and 241, History of Music	
M. 1, 2, 3, 4, Theory (4 hr. each)	16	(3 hr. each)	6
M. 107 Analysis of Musical Form	3	Glee Club, Chorus, Band, or Orchestra	4
M. 117 Instrumentation, and M. 118 Orchestration or M. 119 Band Arranging (2 hr. each)	4		73

Academic

	Hr.		Hr.
English	12	Science	8
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.)		General Biology 1 and 2 (4 hr. each) or Physical Science 1 and 2 (4 hr. ea.)	
English 18 or English 21 (Communications) (3 hr.)		Art 30	2
English 3, 4, 5, or 6 (3 hr.)		Phys. Ed. (2 hr. Men, 4 hr. Women)	2-4
Social Science	14-16	Health Education 101 or 180	2
History 1 and 2 (3 hr. each) or		Military or Air Science (Men)	8
Humanities 1 and 2 (4 hr. each)		Women	42-44
Social Science 1 and 2 (4 hr. each)		Men	48-50

Education

	Hr.		Hr.
Ed. 105 Educational Psychology	3	Ed. 120 Principles of Teaching in the Secondary Schools	2
Ed. 106 Educational Psychology	3	Ed. 124 Student Teaching	4
Ed. 114 Educational Psychology—Adolescent Adjustment	3	Ed. 169 Materials and Methods of High School Teaching (Music)	2
Ed. 115 Student Teaching in the Elementary School	2	Total	21
Ed. 130 Materials and Methods in Elementary-School Music	2		

Courses By Years

FRESHMAN				SOPHOMORE			
First Sem.	*Hr.*	*Second Sem*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem*	*Hr.*
Applied	4	Applied	4	Applied	4	Applied	4
M. 1	4	M. 2	4	M. 3	4	M. 4	4
Clee, Cho., Band, or Orch.	0	Clee, Cho., Band, or Orch.	0	Clee, Cho., Band, or Orch.	0	Clee, Cho., Band, or Orch.	0
English 1	3	English 2	3	Eng. 18 or Eng. 21 (Comm.)	3	Eng. 3, 4, 5, or 6	3
Hist. 1 or Humanities 1	3-4	Hist. 2 or Humanities 2	3-4	Social Science	4	Social Science 2	4
Phys. Ed.	1	Phys. Ed.	1	Ed. 105	3	Ed. 106	3
(W)	15-16	(W)	15-16	Phys. Ed. (W)	1	Phys. Ed. (W)	1
Mil. or Air Sci. 1 (men)	2	Mil or Air Sci. 2 (men)	2	(W)	19	(W)	19
				Mil. or Air Sci. 3 (men)	2	Mil. or Air Sci. 4 (men)	2
(M)	17-18	(M)	17-18	(M)	20	(M)	20

*At least one semester of voice is required.

JUNIOR				SENIOR			
First Sem.	*Hr.*	*Second Sem*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem*	*Hr.*
Applied	4	Applied	4	Applied	4	Applied	4
M. 107	3	M. 118 or 119	2	M. 181 or 182	2	M. 241	3
M. 117	2	M. 185	3	M. 240	3	Ed. 120	2
M. 183	3	Gen. Biol. 2 or Physical Sci. 2	4	Ed. 115	2	Ed. 169	2
Gen. Biol. 1 or Physical Sci. 1	4	Art 30	2	Ed. 130	2	Ed. 124	4
Glee, Cho., Band, or Orch.	1	Ed. 114	3	Health Ed. 101	2	Glee, Cho., Band, or Orch.	1
		Glee, Cho., Band, or Orch.	1	Glee, Cho., Band, or Orch.	1		
	17		19		16		16

The student is required to take work in his major field of Applied Music each semester he is enrolled in the School of Music. Work in the minor field and in the approved electives will be pursued under the guidance of the student's adviser.

Credit in the performing organizations such as the Band, the Orchestra, the Chorus, the Glee Clubs, is given only in the junior and senior years. Students are required to participate in these organizations as assigned by the Director of the School of Music.

Certification

Students successfully completing the above course of study will qualify for the Special Non-Academic Certificate in Music. This certificate permits one to teach on both elementary and secondary levels.

Students may qualify for the First-Class High School Certificate by taking a second teaching field, and the following courses in Education: 105, 106, 114, 120, 124, 169, and a 3-hour Education elective in Secondary Education. (See W.V.U. Teacher Training Bulletin for requirements in Teaching Fields.)

Some students have found it possible to qualify for both the Special Non-Academic and the First-Class High-School Certificates. This will normally require extra time in Summer Session or during the regular year.

COURSES OF INSTRUCTION

1. Theory. I. 4 hr. Thorough trainig in the melodic, harmonic, and rhythmic elements of music. Triads, intervals, keys, scales, cadences, notation, rhythmic reading, sight singing, melodic and harmonic dictation. Keyboard harmony stressed. Staff

2. Theory. II. 4 hr. PR: Music 1. Continuation of melodic and harmonic dictation. Seventh chords, modal scales, key relationships, modulation, transposition by clef, and the study of four-part writing. Special drills in keyboard harmony. Staff

3. Theory. I. 4 hr. PR: Music 1, 2. Study of the harmonic technique of the 18th and 19th centuries. Melodic and harmonic dictation, four-part writing, modulation, altered chords, chorale harmonization, keyboard harmony. Staff

4. Theory. II. 4 hr. PR: Music 1, 2, 3. Continuation of Theory 3 drills. Dictation of chorals. Contrapuntal technique of the 18th century. Keyboard harmony. Staff

5. Remedial Theory. I, II. No Credit. A course for graduate students who are deficient in undergraduate theory requirements. Staff

10. Music in Human Relations. I, II. 2 hr. A course designed to supply a foundational, cultural, musical background to a clearer understanding of music as a daily living experience. Lectures, demonstrations, concerts, recordings. Not open to Music majors. Staff

11. Music as an Art and Science. I, II. 2 hr. PR: Music 10 or its equivalent. Music in the elementary school curriculum. Music methods and materials for teachers in the first three grades. Two recitation periods and one laboratory period per week. Not open to music majors. Miss Harrison

12. Music Materials and Procedures. I, II. 2 hr. PR: Music 11 or its equivalent. Continuation of Music 11. Methods and materials for teachers in upper grades. Criteria for utilization of notational elements. Two recitation periods and one laboratory period per week. Not open to music majors. Miss Harrison

77. Enjoyment of Music. I. 1 hr. A non-technical course dealing with the elements of music—rhythm, timbre, form, harmony, melody. Not open to music majors. Mr. Wood

78. Enjoyment of Music. II. 1 hr. Continuation of Music 77. Not open to music majors. Mr. Wood

107. Analysis of Musical Form. I. 3 hr. A detailed study of the structure of music. Mr. English

109. Introductory Counterpoint. I. 2 hr. A course in 16th century polyphony. A brief survey of the history of counterpoint precedes a study of the melodic and contrapuntal principles of style in 16th century choral music. Students compose original melodies, and two- and three-part compositions. Mr. Lorince

110. Counterpoint. II. 2 hr. PR: Music 109. Continuation of Music 109. Original composition for three, four, and five voices in the 16th century style. Mr. Lorince

113. Introductory Composition I. 2 hr. PR: Music 4. Original creative writing in the smaller forms. Mr. Haugland

114. Composition. II. 2 hr. PR: Music 113. Continuation of M. 113. Mr. Haugland

115. Composition. I. 2 hr. PR: M. 114. Mr. Haugland

116. Composition. II. 2 hr. PR: M. 115. Mr. Haugland

117. Instrumentation. I. 2 hr. A study of the characteristics of band and orchestral instruments and their uses in scoring. Mr. Haugland

118. Orchestration. II. 2 hr. PR: Music 117. Problems in scoring for orchestral ensembles. Mr. Haugland

119. Band Arranging. II. 2 hr. PR: Music 117. Problems in scoring for concert and marching bands. Mr. Intravaia

150. Applied Music. I, II. 1-4 hr. Open to qualified students in any field in Applied Music. Course number may be repeated as many times as necessary or desirable. Credit given at the rate of two hours per thirty-minute weekly lesson for music majors, one hour for nonmusic majors. Staff

153. Accompanying. I. 1 hr. This course furnishes opportunity to acquire the art of accompanying vocal and instrumental solos. Staff

154. Accompanying. II. 1 hr. Continuation of M. 153. Staff

155. Chamber Music.. I. 1 hr. The study of sonatas, trios, and string quartets. Open to pianists and string and wind instrument players. Staff

156. Chamber Music. II. 1 hr. Continuation of M. 155. Staff

181. Instrumental Techniques. I. 2 hr. The organization and administration of an instrumental program in the public schools. Mr. Intravaia

182. Choral Techniques. I. 2 hr. The organization and administration of choral groups in high school. Mr. McGregor

183. Conducting. I. 3 hr. A basic course in conducting techniques, both choral and instrumental. Mr. Brown

185. Public School Music. II. 3 hr. Essentials of music education from the elementary grades through senior high school. Miss Harrison

186. Composition. I. 2 hr. PR: Music 116. Staff

187. Composition. II. 2 hr. PR: Music 186. Staff

198. Original Major Work in Composition. I, II. 2 hr. Required for degree in Theory and Composition. Staff

199. Graduation Recital. I, II. 2 hr. Required for degrees in Applied Music. Staff

200. Band, Orchestra, and Chorus Clinic. 2 hr. Special problems of organization and development, including literature, rehearsal technique, drilling, tuning, and motivation of student practice. Lecture and discussion groups. This clinic will function with laboratory groups of high-school students. Staff

201. Music in the Elementary School. I, II. 2 hr. PR: M. 10, 11, 12, or consent of the instructor. Development of skills, procedures, techniques and materials used by the general classroom teacher of music in grades 1-8. Not open to music majors. Staff

210. Opera Techniques. I, II. 2 hr. PR: Consent of the instructor. Mrs. McEnney

240. History of Music. I. 3 hr. Survey of music history from the pre-Christian era to the end of the classical-school period. Mr. Schafer

241. History of Music. II. 3 hr. Continuation of Music 240, including the romantic and modern periods. Mr. Schafer

280. Survey of Operatic Music. I. 2 hr. Mr. Schafer

281. Survey of Symphonic Music. II. 2 hr. Mr. Schafer

282. Studies in Contemporary Music. I, II. 2 hr. Mr. Hart

BEGINNING APPLIED MUSIC CLASSES[2]

89. Class Voice. I, II. 1 hr. Staff

90. Class Piano. I, II. 1 hr. Staff

188. French Horn. I, II. 1 hr. Staff

189. Flute. I, II. 1 hr. Staff

190. Oboe and Bassoon. I, II. 1 hr. Staff

191. Trombone. I, II. 1 hr. Staff

192. Cornet. I, II. 1 hr. Staff

193. Clarinet. I, II. 1 hr. Staff

194. Violin and Viola. I. 1 hr. Staff

195. Violin and Viola. II. 1 hr. Staff

196. Cello and Bass. I, II. 1 hr. Staff

197. Percussion. I, II. 1 hr. Staff

ORGANIZATIONS

100. Band. 0 or 1 hr. Mr. Intravaia

101. Men's Glee Club. 0 or 1 hr. Mr. McGregor

102. University-Community Mixed Chorus. 0 or 1 hr. Mr. McGregor

103. University-Community Symphony Orchestra. 0 or 1 hr. Mr. Wood

104. Women's Glee Club. 0 or 1 hr. Mr. Brown

[2]Students may use their own instruments, or instruments may be rented for a fee of $2.50 per semester.

The Graduate Degree

Candidates for the degree of Master of Music are required to have completed the prescribed four-year curriculum of undergraduate study in Music at the University, or its equivalent at another institution of recognized standing. Qualifying examinations are given in various fields of music. Students will be required to make up any undergraduate deficiencies.

Candidates for the graduate degree in Music may major in one of three fields: Public School Music, Applied Music, or Theory and Composition.

Students majoring in Public School Music will be allowed one of the following options: 1. Take thirty hours in approved courses, including four hours for thesis. 2. Take thirty hours in approved courses, and give a representative public recital in lieu of writing a thesis. Candidates selecting this option must be recommended by the proper applied music teacher and approved by the faculty. The recital carries no credit. 3. Take thirty-six hours in approved courses without thesis or recital. Six hours in the thirty-six hour degree may be in approved fields other than music. The option selected will be determined in consultation with the Director of the School of Music.

A representative public recital is required of candidates majoring in Applied Music. Composition majors must submit as a thesis a composition in a large form. If the major is Theory the thesis may be either a musical composition or a written thesis, depending on the student's capabilities.

A general comprehensive oral examination is required of all candidates for the Master of Music Degree.

Following are the three curricula:

Public School Music (with thesis)	*Hr.*
Applied Music	8
M. 310. Conducting	3
M. 340. Choral Techniques, or	
M. 342. Instrumental Techniques	3
M. 344. Public School Music	3
M. 399. Thesis	4
Electives, Music	9
	30

Applied Music	*Hr.*
Applied Music. (At least 8 hours in a major field)	12
M. 310. Conducting	3
M. 320. Music Literature	3
M. 360. Composition, or	
M. 370. Orchestration	3
M. 398. Recital	4
Electives	5
	30

Theory and Composition	*Hr.*
Applied Music	4
M. 360. Composition	3
M. 361. Composition	3
M. 365. Counterpoint	3
M. 366. Counterpoint	3
M. 370. Orchestration	3
M. 371. Orchestration or M. 372. Band Arranging	3
M. 375. Pedagogy of Theory	2
M. 376. Pedagogy of Theory	2
M. 399. Thesis	4
	30

Applied Music

300. Applied Music. I, II. 1-4 hr. Open to qualified students in any field in Applied Music. Course number may be repeated as many times as necessary or desirable. Credit given at the rate of two hours per thirty-minute weekly lesson for music majors, one hour for non-music majors. Staff

Conducting

310. Conducting. I. 3 hr. PR: Music 183 or equivalent. A graduate course in instrumental and choral conducting. Major works are prepared and conducted through the use of recordings and the large University music organizations. Mr. Brown

311. Conducting. II. 3 hr. PR: M. 310. Continuation of M. 310. Mr. Hart

Literature

240. History of Music. I. 3 hr. Survey of music history from the pre-Christian era to the end of the classical-school period. Mr. Schafer

241. History of Music. II. Continuation of Music 240, including the romantic and modern periods. Mr. Schafer

280. Survey of Operatic Music. II. 2 hr. Mr. Schafer

281. Survey of Symphonic Music. I, II. 2 hr. Mr. Schafer

282. Studies in Contemporary Music. I, II. 2 hr. PR: Consent. Mr. Hart

320. Music Literature. I, II. 3 hr. PR: Consent of instructor. Survey and critical study of music literature in the major field of Applied Music. Staff

Music Education

201. Music in the Elementary School. I, II. 2 hr. PR: M. 10, 11, 12, or consent of instructor. Development of skills, procedures, techniques and materials used by the general classroom teacher of music in grades 1-8. Not open to music majors. Staff

340. Choral Techniques. I. 3 hr. PR: Music 182 or equivalent. Study and practice in the development of choral groups. Mr. Brown

342. Instrumental Techniques. I. 3 hr. PR: Music 182 or equivalent. Study and practice in the development of instrumental groups. Mr. Intravaia

344. Public School Music. I. 3 hr. PR: M. 185 or equivalent. Survey and critical study of the total music education curriculum. Miss Harrison

345. The Supervision of Music. II. 2 hr. PR: Music 185. Problems in the supervision of music in the elementary grades and in junior high school. Miss Harrison

Opera

210. Opera Techniques. I, II. 2 hr. PR: Consent of the instructor. Mrs. McEnney

Theory and Composition

360. Composition. I, II. 3 hr. PR: Consent of instructor. A course primarily for candidates for the graduate degree in Theory and Composition. Mr. Hart

361. Composition. I, II. 3 hr. PR: Music 360. Continuation of Music 360. Mr. Hart.

362. Composition. I, II. 3 hr. PR: Music 361. Continuation of Music 361. Mr. Hart

363. Composition. I, II. 3 hr. PR: Music 362. Continuation of Music 362. Mr. Hart

365. Counterpoint. I. 3 hr. PR: M. 110 or equivalent. Primarily a graduate course in 16th century counterpoint. A study is also made of the Bach contrapuntal style, and aspects of counterpoint in contemporary styles are examined. Mr. Lorince

366. Counterpoint. II. 3 hr. PR: M. 365. Continuation of M. 365. Mr. Lorince

370. Orchestration. I. 3 hr. PR: M. 118 or equivalent. Major projects in the orchestration of original or pre-existing works. Mr. Hart

371. Orchestration. II. 3 hr. PR: M. 370. Continuation of M. 370. Mr. Hart.

372. Band Arranging. II. 3 hr. PR: Music 119 or equivalent. Major projects in arranging for the concert band. Mr. Intravaia

375. Pedagogy of Theory. I. 2 hr. PR: A strong undergraduate background in theory. An analysis of various approaches to the problems involved in the teaching of theory. Lectures, observation, and practice teaching. Mr. Lorince

376. Pedagogy of Theory. II. 2 hr. PR: M. 375. Continuation of M. 375. Mr. Lorince

Thesis or Recital

397. Recital. No credit. For Public School Majors only. Staff

398. Recital. 4 hr. Staff

399. Thesis. 4 hr. Staff

The College of Pharmacy

GENERAL INFORMATION

The University first offered a course in pharmacy leading toward a Bachelor of Science Degree in Pharmacy for a four-year course in 1899. The course was listed in the University *Catalog* for a period of five years but there is no evidence of any students enrolled or of the employment of a pharmaceutically trained faculty. The announcement of the course was discontinued after publication of the 1903-04 *Catalog*.

In response to the request of the West Virginia State Pharmaceutical Association, a forward-looking group of pharmacists practicing in the state who recognized the necessity for more thoroughly educated and better-trained pharmacists, the Board of Regents in 1914 established a Department of Pharmacy in the School of Medicine. The first course offered was a two-year course leading to the degree of Graduate in Pharmacy (Ph.G.).

In 1917 additional courses of three and four years, leading to the degrees of Pharmaceutical Chemist (Ph.C.) and Bachelor of Science in Pharmacy (B.S.Phar.), were established. The course leading to the degree of Graduate in Pharmacy was discontinued in 1924, and the course leading to the degree of Pharmaceutical Chemist was discontinued in 1932. Since 1932, a minimum of four years of study has been required.

The College of Pharmacy, in conformity with the standards set for all accredited colleges of pharmacy, is planning to offer a five-year minimum program beginning not later than September, 1960.

The College of Pharmacy was established as a separate division of the University, by order of the Board of Governors, effective July 1, 1936. The College is located in Science Hall.

Aims and Purposes

The chief purpose of the College of Pharmacy is to provide a systematic instruction and training in pharmacy, its allied sciences, and such other subjects as are deemed to be essential in the education of a pharmacist, that he may meet the present and future demands of the profession in an able and intelligent manner.

An important part of the pharmacist's training is to give to him a proper conception of his professional responsibilities and thereby enable him to correlate his efforts with those of the medical professions and other public health agencies.

A fundamental purpose of the College is to cooperate with the pharmacists of the state to maintain and elevate the standards of the profession.

OPPORTUNITIES IN THE PHARMACEUTICAL PROFESSION

The greater percentage of those who graduate in pharmacy are found to follow retail pharmacy as proprietors, managers, or prescription pharmacists. There are openings for those who do not desire to engage in the retail field. Hospitals are equipped with pharmaceutical departments in charge of pharmacists. Manufacturing plants and industrial laboratories employ pharmacists for control and research work involving medicines, foods, cosmetics, biologicals, and similar products. The federal government employs many pharmacists in capacities requiring training in pharmacy such as the Narcotic Bureau, the Industrial Alcohol Bureau, the Public Health Service, the Veterans' Administration, Bureau of Chemistry, and the Food and Drug Administration. Many pharmacists are employed as traveling salesmen for manufacturing and wholesale pharmaceutical concerns. Pharmacists are eligible for commissions in the U. S. Public Health Service and in the Medical Administrative Corps of the U. S. Army and the Navy's Medical Service Corps.

WOMEN IN PHARMACY

Women students are admitted to the College of Pharmacy on the same conditions as men. Experience has proved that women possess a peculiar fitness for the study and pursuit of pharmacy. In certain fields such as hospital pharmacy, women appear to be given preference. The number of women engaged in the profession is constantly increasing, and high-school graduates having an aptitude for scientific subjects would do well to seriously consider pharmacy as their profession.

ACCREDITATION

The College of Pharmacy of West Virginia University is accredited by the American Council on Pharmaceutical Education as a Class A college. The American Council on Pharmaceutical Education is composed of members from the American Pharmaceutical Association, the National Association of Boards of Pharmacy, and the American Association of Colleges of Pharmacy. The Council is the accrediting agency for colleges of pharmacy.

LABORATORIES

Pharmaceutical Laboratories. The pharmaceutical laboratories are equipped for the manufacture of pharmaceutical preparations. Drugs and chemicals required in the manufacture of pharmaceutical preparations are preserved in glass containers labeled according to the nomenclature of the Pharmacopoeia and National Formulary, and conveniently located on shelves accessible to all students in the laboratory. Manufacturing equipment especially fitted for instruction in pharmacy is available.

Each student is supplied with a full set of pharmaceutical apparatus and glassware necessary for carrying out the requirements of each laboratory course. Torsion balances, encased in glass, are a part of this regular equipment.

Pharmacognosy. The pharmacognosy collection consists of approximately 400 medicinal plant drugs secured from all parts of the world. For instructional purposes several large collections have been arranged. These are (a) a large display collection (b) a labeled collection for student study, (3) a nonlabeled collection for identification, and (d) a collection of powdered drugs for the purpose of histological study.

Laboratory of Medical Bacteriology. The bacteriology laboratory is equipped with all necessary apparatus, such as sterilizers, incubators, glassware, etc. Each student has the use of a microscope with oil-immersion lens. Special apparatus for bacteriological examination of air, water, milk, and blood is supplied to each student. Material for laboratory work in bacteriological diagnosis such as Widal tests for typhoid, examination of sputum for tubercle bacilli, bacteriological examination of water, etc., is available.

Physiology Laboratory. The laboratories devoted to physiology on the second floor of the Medical Building are supplied with tables, each accommodating two students. Each table is equipped with a complete set of general physiological apparatus which is lent to the students with a charge for breakage. Special apparatus is supplied from the storeroom to individual groups as needed. Sufficient equipment is provided to enable the students to perform all the experiments listed in standard laboratory manuals and for the demonstration by instructors of experiments which cannot conveniently be performed by the student.

Biochemistry Laboratories. The biochemistry laboratories, situated on the fourth floor of the Chemistry Building, consist of a student's laboratory, containing the usual equipment of desks, hoods, etc., the departmental office with reference library, and a research library. A darkroom is available for work requiring its use, as in polariscope work, etc.

Other Laboratories. The laboratories of the Departments of Biology, Zoology, Chemistry, and Physics of the University are open to students in Pharmacy.

The University Pharmacy. The University Pharmacy is a practical pharmacy located in the Health Center. It is operated upon a strictly ethical basis where physicians' prescriptions are filled for the student body by registered pharmacists.

The University Pharmacy is equipped with a semi-open prescription department which, according to most authorities, is more desirable than either the fully open or closed prescription department.

Library and Reading Room

The books and periodicals of interest to pharmacy are housed in the University Library building. There is a good collection of works on chemistry, physiology, pharmacy, zoology, botany, bacteriology, and pharmacology. There are bound volumes of the leading scientific journals. Such books as are of interest to pharmacy students are kept on reserve and magazines of interest to pharmacy students filed in the general reading room, which is open from 8:00 A.M. to 10:00 P.M. In addition each department has its own collection of books for the use of instructors and students. Material not available in this library may be borrowed from the Surgeon General's Library or from the Library of Congress.

Requirements for the Practice of Pharmacy in West Virginia

The West Virginia law provides that a person "in order to be registered as a pharmacist . . . shall be a citizen of the United States, not less than 21 years of age," and "shall present to the board of pharmacy satisfactory evidence that he is a graduate of a recognized school of pharmacy as defined by the board of pharmacy, and in addition thereto he shall have had at least one year of practical experience in a drug store under the instruction and supervision of a registered pharmacist, and shall pass a satisfactory examination by or under the direction of the board of pharmacy.

"Every applicant for registration as a pharmacist shall present to the board of pharmacy satisfactory evidence that he is a person of good moral character and not addicted to drunkenness or the use of narcotic drugs."

West Virginia law provides that the year of apprenticeship be registered with the West Virginia State Board of Pharmacy. The work of the apprentice must be registered with the Board within ninety days from the beginning of such work in order to be credited toward the required year of experience.

Reciprocity

Graduates of the College of Pharmacy are eligible for examination to practice pharmacy in any state, but graduates of this College who successfully pass the West Virginia State Board of Pharmacy examination are privileged to reciprocate with forty-five other states and with the District of Columbia, Alaska, and Puerto Rico, without further examination, provided they possessed the experience requirement of these states before taking the examination.

Pharmaceutical Associations

The West Virginia State Pharmaceutical Association. This organization has for its object the improvement of the science and art of pharmacy, the inculcation of the professional spirit, and the restriction of the practice of pharmacy to persons properly qualified by education and experience to practice their art with safety to the public. Additional information may be obtained from William J. Dixon, Secretary-Manager, Oak Hill, West Virginia.

American Association of Colleges of Pharmacy. The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the Association is to promote the interests of pharmaceutical education and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this Association, higher standards of education have been adopted from time to time, and the fact that several states, by law or by board ruling, recognize these standards of the Association is evidence of this influence.

American Pharmaceutical Association. The West Virginia University College of Pharmacy Student Branch of the American Pharmaceutical Association was organized in 1948. Its object is to provide for participation of students in the activities of the American Pharmaceutical Association to the end that their interest in pharmaceutical association work may be stimulated and guided, and to familiarize them with the conditions existing in and the problems confronting the profession.

Dean's List

In 1952 the College established the Dean's List which is a list of the students honored by special commendation for their scholastic attainments during the semester. A student in order to be eligible for this honor must receive not less than a "B" average in not less than 15 hours for the semester.

The 1954-55 Dean's List

First Semester
Jack W. Anderson, Matoaka
Carol Ann Bond, Clendenin
Frederick E. Combs, Spencer
Sara Jo Dorsey, Moundsville
Virginia W. Gaston, Belington
Jospeh T. Grose III, Alderson
Karl K. Hickman, California, Pa.
Kent R. Hornbrook, New Martinsville
Samuel C. Lang, Weston
Leo F. Mazzocchi, Fayetteville
Ray D. Ogden, Lumberport
James E. Powers, Bluefield
Thomas P. Rogers, Morgantown
Alice Selby, Clarksburg
Finley D. Seldomridge, St. Albans
Andrew F. Shelton, East Rainelle
Henry C. Viglianco, Fairmont
William F. Whetsell, Terra Alta
Margaret W. Winter, Charleston
Charlotte M. Yates, Ronceverte

Second Semester
Jack W. Anderson, Matoaka
George O. Bennett, Ansted
Carol Ann Bond, Clendenin
Charles S. Davis, New Martinsville
Sara Jo Dorsey, Moundsville
Virginia W. Gaston, Belington
Kent R. Hornbrook, New Martinsville
James T. Hughes, Spencer
Gabriel G. Kalafat, Weston
Samuel C. Lang, Weston
Ray D. Ogden, Lumberport
Christos T. Petropoulos, Morgantown
Wilbur F. Robinson, Mannington
Thomas P. Rogers, Morgantown
Alice Selby, Clarksburg
Finley D. Seldomridge, St. Albans
Andrew F. Shelton, East Rainelle
Jack H. Smith, Parkersburg
Margaret W. Winter, Charleston
Keith M. Wolford, Romney

Service to Pharmacists of the State

The College of Pharmacy desires to render every possible service to the pharmacists of the state. An invitation is extended to write or visit the College in regard to prescription difficulties and manufacturing problems.

REQUIREMENTS FOR THE DEGREE

The degree of Bachelor of Science in Pharmacy (B.S.Phar.) is conferred upon any student who complies with the general regulations of the University concerning degrees, satisfies all entrance and College requirements, and completes the curriculum of the College of Pharmacy.

To be eligible for graduation, a student must have an average of "C" or an average of two grade points on all work for which he received grades (except "W" and "WP").

Each undergraduate who begins his college work after June 1, 1952 must pass a proficiency examination in English after the beginning of his junior year in order to qualify for graduation. He shall take the examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as necessary.

Students who fail to complete the requirements for graduation within seven years from their first registration in the College shall satisfy the requirements in effect at the time they apply for graduation.

All University degrees are conferred by the Board of Governors upon recommendation of the faculties of the various schools and colleges. Degrees are granted at the close of the semester or Summer Session in which the students complete their work.

Candidates for degrees to be conferred at the close of the second semester must be present in person to receive their degrees unless excused by the deans of their colleges.

No individual may be exempted from the provisions of this University regulation except by official action of the Board of Governors of the University.

Substitutions. A student who desires to substitute another course in place of any course prescribed in his curriculum must obtain permission for such substitution from the Committee on Scholarship.

Physical Education. Two hours of physical education for men, to be taken during the first year of residence, and four hours of physical education for women, to be taken during the first and second years of residence, are required for graduation of

students presenting fewer than 58 semester hours, unless previous credit has been allowed.

Grade Points. The College of Pharmacy requires a minimum standard of scholastic quality. The quality of a student's work is expressed in grade points, based only on grades earned at West Virginia University (including Potomac State College of West Virginia University). The grade-point average is computed on all work for which the student has registered, except for the courses with grades of "W" and "WP," and is based on the following grade-point values:

A	B	C	D	F	WF	I	X
4	3	2	1	0	0	0	0

Provided, however, that when a student receives a grade of "I" and later removes the incomplete grade, his average grade-point standing shall be calculated on the basis of the new grade. It is the student's responsibility to keep informed on his grade-point standing. This information may be obtained at any time from the Dean of the College.

Students are permitted to register in any course for which a grade of "D" has been received. In such cases the second grade shall supersede the first, provided it is not lower than "D."

CURRICULUM IN PHARMACY*

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Biology 1	4	Biology 2	4	Chem 105	4	Chem. 115	3
Chem. 1	4	Chem. 2	4	†Mil. or Air Sci. 3	2	†Mil. or Air Sci. 4	2
English 1	3	English 2	3	Pharm. 4	2	Pharm. 6	4
†Mil. or Air Sci. 1	2	†Mil. or Air Sci. 2	2	Pharm. 5	3	Pharm. 7	2
Pharm. 1	3	Pharm. 3	2	Pharm. 11	3	Pharm. 12	2
Pharm. 2	2	†Phys. Ed. 2	1	Physics 1	4	Physics 2	4
†Phys. Ed. 1	1						
	19		16		18		17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233	5	Bact. 220	5	Pharmacol. 160	5	Pharm. 107	3
Econ. 1	3	Chem. 238	4	Pharm. 105	2	Pharm. 109	2
Pharm. 102	2	Econ. 2	3	Pharm. 108	3	Pharm. 113	5
Pharm. 103	2	Pharm. 111	3	Pharm. 110	3	Pharm. 114	3
Pharm. 106	3	Pharm. 112	2	Safety Ed. 127	2	Pharm. 203	3
Physiol. 141	4						
	19		17		15		16

*142 hours are required for graduation.

†Those not completing the Military (or Air) Science and Physical Education requirements are required to make selections of approved electives to complete the required hours for graduation.

SUGGESTED ELECTIVE COURSES

FIRST SEMESTER

Subject	*Hr.*
Art 123—Lettering	2
Bot. 273—Plant Physiology	4
Bus. Law 111—Business Law	3
Chem. 163—Physical Chem.	3
Chem. 111—Synthetic Inorganic Chem.	4
Chem. 141—Assigned Topics	1 to 5
Chem. 214—Organic Qual. Anal.	3
Chem. 247—Stereochemistry	2
Chem. 277—Synthetic Drugs	2
Chem. 343—Advanced Organic Chem.	4
Economics 111—Money and Banking	3
English 3—English Literature	3
English 4—English Literature	3
English 5—American Literature	3
English 6—American Literature	3
English 23—Business English	3
English 25—Intro. to Poetry	2
English 26—Intro. to Fiction	2
English 27—Intro. to Drama	2
English 125—Advanced Composition	2
French 1—(when not offered for entrance credit)	3
Genetics 111—Elementary Genetics	2
Geol. 1—Physical Geology	3
Geol. 184—Mineralogy	4
German 1—(when not offered for entrance credit)	3
German 121—Scientific German	3
Hist. 1—European Civilization	3
Hist. 52—American History	3
Humanities 1—Introductory General Course	4
Humanities 181—American Civilization	4
Journalism 113—Prin. of Advertising	3
Mktg. 111—Principles of Marketing	3
Math. 3—College Algebra	3
Math. 4—Plane Trigonometry	3
Pharm. 116—Pharmaceutical Investigation	2 or 3
Pharm. 117—Dispensing	1 or 2
Pharm. 119—Marketing Drug Products.	3
Pharm. 120—Cosmetics	1 or 2
Physics 109—Problems in General Physics	2
Speech 3—Voice and Diction	3
Speech 11—Public Speaking	3
Sociol. 101—Introd. to Sociol.	3
Zool. 1—General Zoology	4
Zool. 231—Comparative Anatomy	5

SECOND SEMESTER

Subject	*Hr.*
Art 123—Lettering	2
Bus. Law 112—Business Law	3
Chem. 142—Assigned Topics	1 to 5
Chem. 162—Colloidal Chem.	4
Chem. 274—History of Chem.	2
Chem. 214—Organic Qual. Anal.	3
Chem. 277—Synthetic Drugs	2
Ch.E. 200—Chem. Eng'g Operations	2
English 3—English Literature	3
English 4—English Literature	3
English 5—American Literature	3
English 6—American Literature	3
English 23—Business English	3
English 25—Intro. to Poetry	2
English 26—Intro. to Fiction	2
English 27—Intro. to Drama	2
English 126—Advanced Composition	3
Finance 111—Business Finance	3
French 2—(when not offered for entrance credit)	3
Geol. 1—Physical Geology	3
Genetics 111—Elementary Genetics	2
German 2—(when not offered for entrance credit)	3
History 2—European Civilization	3
History 53—American History	3
Humanities 2—Introductory General Course	4
Humanities 182—American Civilization	4
Mktg. 115—Principles of Retailing	3
Math. 3—College Algebra	3
Math. 4—Plane Trigonometry	3
Pharm. 101—Show Card Design & Window Display	2
Pharm. 104—Qual. Anal. Alkaloids	2
Pharm. 117—Dispensing	1 or 2
Pharm. 121—Household Products	1 or 2
Pharm. 116—Pharmaceutical Investigation	2 or 3
Pharm. 122—Manufacturing Pharmacy	2
Physics 110—Problems in General Physics	2
Physics 116—Photography	3
Psych. 1—Introd. to Psych.	3
Psych. 110—Applied Psych.	3
Speech 3—Voice and Diction	3
Speech 11—Public Speaking	3
Zool. 2—General Zoology	4

COURSES OF INSTRUCTION

PHARMACY

Professor Geiler

1. Principles of Pharmacy. I. 3 hr. A brief survey of the historical background of Pharmacy, the development and purpose of the United States Pharmacopoeia and National Formulary, together with a systematic study of weights and measures, and fundamental pharmaceutical processes and terminology. (45 hr.) Lectures and recitations. Mr. Geiler

2. Pharmaceutical Calculations. 1. 2 hr. The mathematical problems and calculations encountered in and peculiar to pharmaceutical practice. (30 hr.) Mr. Wojcik

3. Pharmaceutical Calculations. II. 2 hr. A continuation of Pharmacy 2. (30 hr.) Mr. Wojcik

4. General Pharmacy. I. Lectures. I. 2 hr. A course dealing with the theories, processes of manufacture and the nomenclature of the simple galenical preparations used in pharmacy, both official and non-official. (30 hr.) Lectures and recitations. Mr. Geiler

5. General Pharmacy 1. Laboratory. I. 3 hr. A laboratory course to accompany Pharmacy 4 where representative examples of the various preparations are prepared. (135 hr.) Laboratory. Mr. Geiler

6. General Pharmacy 2. II. 4 hr. A detailed study of the more complex types of official and non-official preparations. (60 hr.) Lectures and recitations. Mr. Wojcik

7. Introductory Pharmacy Dispensing. II. 2 hr. A study of the compounding and dispensing of the more difficult types of pharmaceutical preparations. (90 hr.) Laboratory. Mr. Wojcik

103. Public Health and Hygiene. I. 2 hr. A study of the measures required for the maintenance of health and for the prevention and control of disease, and the application of the pharmacist's knowledge, skill, and facilities to the promotion of the health and welfare of the public in cooperation with public and private health agencies. (30 hr.) Lectures and recitations. Mr. Bergy

105. History of Pharmacy. I. 2 hr. A course designed to give the student a deeper appreciation of the background of pharmacy and its development from the ancient times to the present. (30 hr.) Lectures and recitations. Mr. Wojcik

108. Dispensing Pharmacy. I. 3 hr. A course dealing with the fundamentals of prescriptions including the receiving, compounding, pricing, and dispensing. The course includes a study of prescriptions with special reference to incompatibilities and the techniques in the proper dispensing thereof. A brief summary of prescription latin is included. (45 hr.) Lectures and recitations. Mr. Hayman

109. Dispensing Pharmacy. II. 2 hr. A laboratory course giving practical work in compounding the more difficult and unusual prescriptions. (90 hr.) Laboratory. Mr. Bergy

113. Pharmacy and Chemistry of Medicinal Products. II. 5 hr. A comprehensive study of the acids, bases, salts and preparations which are commonly used in the practice of pharmacy with emphasis on the official compounds and preparations. (75 hr.) Lectures and recitations. Mr. Geiler

116. Pharmaceutical Investigation. I or II. 1-3 hr. Original investigation in pharmacy or pharmaceutical chemistry. Staff

117. Dispensing Pharmacy. I or II. 1 or 2 hr. A practical course in the dispensing of prescriptions which is open to a few students upon permission. The students assist in the compounding of prescriptions in the Health Service Pharmacy under the immediate supervision of a registered pharmacist. (45 to 90 hr.) Miss George

120. Cosmetics. I. 1 or 2 hr. A laboratory course devoted to the compounding of a large and varied number of cosmetic preparations. (45 to 90 hr.) Laboratory. Mr. Bergy

121. Household Products. II. 1 or 2 hr. A laboratory course devoted to the preparation of a variety of household products. (45 to 90 hr.) Laboratory. Mr. Bergy

122. Manufacturing Pharmacy. II. 2 hr. A course dealing with the formulation and mechanical fabrication of pharmaceutical preparations on a pilot plant scale. (90 hr.) Laboratory. Mr. Bergy

203. Biological and Chemical Therapy. II. 3 hr. A study of the hormones, glandular products, antibiotics, vitamins and the more recent chemotherapeutic agents used medicinally. The course includes the methods of preparation and standardization of biologicals. (45 hr.) Lectures and recitations. Mr. Bergy

Pharmacognosy

Professor Hayman

11. Pharmacognosy. I. 3 hr. A course in which the more important vegetable drugs are studied, giving especial emphasis to the history, commerce, collection, identification, preservation, standards, active constituents, and their medicinal preparations and use. (45 hr.) Lectures and recitations. Mr. Hayman

12. Pharmacognosy. II. 2 hr. A continuation of Pharmacy 11. (30 hr.) Lectures and recitations. Mr. Hayman

112. Microscopical Pharmacognosy. II. 2 hr. A study of the microscopical characteristics of the commercial starches, powdered vegetable drugs, and their adulterants. (90 hr.) Laboratory. Mr. Geiler

Pharmacy Administration

Assistant Professor Wojcik

101. Show Card Design and Window Display. II. 2 hr. A laboratory course which offers the fundamentals in show card writing, emphasizing the use of the brush, arrangement and color harmony, and the design and installation of professional window displays. (45 hr.) Laboratory. Mr. Hayman

102. Pharmacy Accounting. I. 2 hr. A course in the fundamentals of accounting, especially adapted to the needs of the pharmacist. (90 hr.) Laboratory. Mr. Wojcik

111. Pharmaceutical Law. II. 3 hr. A course designed to give the student a broad knowledge of the legal problems which confront the pharmacist. Special attention is given to the federal and state laws relating to the practice of pharmacy, narcotics, poisons, the pure food, drug and cosmetic acts, and the legal relationship of the pharmacist to the public (45 hr.) Lectures. Mr. Hayman

114. Pharmacy Management. II. 3 hr. A study of the business problems involved in planning, merchandising, operation, and control of a retail pharmacy. The course includes store location, organization and management, financing, departmentization and arrangement, selection and supervision of personnel, buying, pricing, sales promotion, selling, and control of stock, expenses, and credits. (45 hr.) Lectures and recitations. Mr. Wojcik

119. Marketing of Drug Products. I. 3 hr. A study of the methods of marketing, channels of distribution, development of pharmaceutical specialties, types of retail pharmacies and their locations, terms of sale, pricing, code marking, and stock control of merchandise. (45 hr.) Lectures. Mr. Wojcik

Pharmaceutical Chemistry

Professor Bergy

104. Qualitative Analysis of Alkaloids and Synthetics. II. 2 hr. A laboratory course concerned with a study of the chemical reactions of the alkaloids and methods for their identification and separation. (90 hr.) Laboratory. Mr. Bergy

106. Inorganic Pharmaceutical Chemistry. I. 3 hr. A study of the inorganic chemicals which are used as medicines or in the preparation of medicines. (45 hr.) Lectures and recitations. Mr. Bergy

107. Organic Pharmaceutical Chemistry. II. 3 hr. A study of the organic chemicals which are used as medicines or in the preparation of medicines. (45 hr.) Lectures and recitations. Mr. Bergy

110. Assay and Pharmaceutical Testing. I. 3 hr. Application of principles and technics of analytical chemistry to the analysis of official and non-official preparations. (105 hr.) Lectures and laboratory. Mr. Bergy

The School of Physical Education and Athletics

GENERAL INFORMATION

THE SCHOOL OF PHYSICAL EDUCATION AND ATHLETICS

The Division of Physical Education was established on the Campus in 1928 and became the School of Physical Education and Athletics in 1937. The purposes of the School are:

1. To provide leadership and facilities for a regular program of instruction and participation in physical activity according to individual needs, capacities, and interests.
2. To prepare teachers and supervisors in health and physical education in elementary schools, secondary schools and colleges.
3. To prepare coaches of athletic teams in secondary schools and colleges.
4. To prepare workers in the fields of recreation and safety education.
5. To provide prerequisites for entrance into departments in universities giving training in physical therapy.
6. To organize and develop recreation programs for students and faculty groups.

Organization

For purposes of administration and instruction the School of Physical Education and Athletics is organized into the following departments:

I. General program for men.
II. General program for women.
III. Curriculum for majors and graduate students preparing for positions in health and physical education, athletic coaching, and recreation.
IV. Intramural sports.

Facilities

The Field House, located on the lower campus near the Monongahela River, provides facilities for classes, intramural sports, and intercollegiate athletics (capacity 6,135) and contains the administrative offices of the School of Physical Education and Athletics.

Elizabeth Moore Hall, situated on the upper campus, provides social, recreation, and physical education facilities primarily for women students. It also houses the offices of the department of general program for women.

Mountainlair, a student activities center, is located on University Avenue near the stadium bridge.

Mountaineer Field is located within the stadium on the north border of the lower campus. It has a seating capacity of 34,000. It provides facilities for intercollegiate football, and track and field events.

The administrative offices of the Department of Intercollegiate Athletics are located in the University Avenue end of the stadium.

Outdoor activities areas for the Physical Education, Intramural Sports, and Intercollegiate Athletics Programs are located on the Old Athletic Field, stadium, tennis courts and on the new campus off Highway 7, one and one-half miles north of the Field House.

Intramurals

A broad intramural sports program for men and women is provided by the School of Physical Education and Athletics. It is the aim of the Intramural Department to encourage all students of the University to participate in organized athletic sports and

wholesome active recreation. Competition is promoted between student groups and individuals. Such natural groupings as classes, fraternities, sororities, dormitories, and other nonfraternity units form the basis for activities in competitive sports.

THE GENERAL PROGRAM FOR MEN AND WOMEN*

The general program, in and through selected activities, provides an opportunity for students to develop general physical efficiency, skills in sports, dance, and wholesome health and recreation attitudes. Experiences gained in the program provide a basis for participation in intramural and varsity athletics, as well as on-and off-campus recreation.

Purposes

The courses are specifically designed to (a) meet the needs of students for an organized program of instruction. (b) develop physical efficiency and skill in activity, (c) experience satisfaction and pleasure in participation, (d) aid in promoting better health by establishing habits of regular participation in physical activity, and (e) develop favorable attitudes and appreciation of wholesome recreation and spectator sports as part of present day living.

Students satisfying the course demands meet the University requirement in Physical Education as a prerequisite for graduation. Those students who are unable to participate in the regular program because of physical handicaps are assigned to the adapted program.

COURSES FOR MEN

1. General Program for Men. I. 1 hr. Required of all freshmen in the University (except majors in Physical Education). Students who are found to be physically unable to engage in regular activity will be assigned to an adpated program of physical education recommended by University physicians and under the direction of the Staff of the department. All other students will be assigned to the regular program of physical education. These students will be grouped for instruction and organized competition in the following activities: Conditioning exercises, group games, wrestling, golf, swimming, volleyball, basketball and gymnastics. Mr. Tork and Staff
2. General Program for Men. II. 1 hr. Required of all freshmen in the University (except majors in Physical Education). Students in the regular program will be grouped for organized competition in the following activities: Conditioning exercises, group games, basketball, softball, bowling, tumbling and apparatus, badminton, handball and tennis. Mr. Tork and Staff

COURSES FOR WOMEN

General Program for Women. Four semesters are required, and students should select one of the following groups each semester:

Group 1—Physical Education 14, 15, 16 ..... (Swimming)
Group 2—Physical Education 3, 17, 18 ..... (Dancing)
Group 3—Physical Education 4, 6, 7, 8, 13 ..... (Individual Sports)
Group 4—Physical Education 9 or 10 ..... (Group Sports)

COURSES

These courses need not be taken in sequence:

3. Folk Dance. II. 1 hr. Staff
4. Golf and Bowling. I, II. 1 hr. Staff
5. Ballroom Dance. I, II. 0 hr. (Limited to beginners). Staff
6. Stunts, Tumbling, and Trampoline. I, II. 1 hr. Staff
7. Archery. I, II. 1 hr. Staff
8. Minor Sports. I, II. 1 hr. Staff
9. Athletics. I. 1 hr. Soccer and Volleyball. Staff
10. Athletics. II. 1 hr. Basketball and Softball. Staff

*This requirement should be met by the men in their first year of residence and by the women in their first two years of residence. Two hours of general program from the requirement for men and four hours for women are required for teacher certification.

11, 12. Adapted Activities. I, II. 1 hr. (May be substituted for the required courses on recommendation of the Health Service). Staff
13. Tennis and Bowling. I, II. 1 hr. Staff
14. Elementary Swimming and Diving. I, II. 1 hr. Staff
15. Advanced Swimming and Diving. I, II. 1 hr. PR: P.E. 14 or equivalent. Staff
16. Life Saving and Water Safety. I, II. (As outlined by the American Red Cross) Staff
17. Elementary Modern Dance. I, II. 1 hr. Staff
18. Advanced Modern Dance. I, II. 1 hr. PR: Phys. Ed. 17. Staff
101, 102. General Program for Junior and Senior Women. I, II. 1 hr. Students may select any course from the above groups for which they have not previously received credit. Staff

Physical Education for Elementary Teachers

Women students who are planning to teach in elementary grades are required to take the following courses:

41. Physical Education for Elementary Teachers. I. 1 hr. (W).
42. Physical Education for Elementary Teachers. II. 1 hr. (W).
43. Physical Education for Elementary Teachers. I, II. 2 hr.

Men students who are planning to teach in elementary grades are required to take the following courses:

1. General Program for Men. I. 1 hr.
2. General Program for Men. II. 1 hr.
43. Physical Education for Elementary Teachers. I, II. 2 hr.

Camp Counselor Recommendations

To be eligible for recommendation by the School of Physical Education and Athletics as camp counselors, students majoring in Physical Education or Recreation must have completed Recreation 1, 3, and 106, and four of the five following courses: Recreation 5, 7, 8, 10, and 201, or equivalents. Other students must complete, in addition to the courses listed for majors in Physical Education and Recreation, four credit hours in activity courses in Physical Education, including Physical Education 54 and 66, or equivalents.

The Standing Committees

Executive: Mr. Duncan (chairman); Miss Griffin, Messrs. Holter, Scherlacher, Tork, Semon and Brown.
Curriculum: Mr. Semon (chairman); Miss Griffin, Miss Hurst, Messrs. Holter, Scherlacher, Tork, Yost and Schaus.
Graduate: Mr. Holter (chairman); Miss Griffin, Miss Hurst, Mrs. Beto, Messrs. Scherlacher, Yost, Tork, Semon, Harrick, Barnette and Jeffrey.
Scholarship: Mr. Scherlacher (chairman); Miss Hurst, Messrs. Semon and Holter.

REQUIREMENTS FOR DEGREES

The degree of Bachelor of Science in Physical Education or the degree of Bachelor of Science in Recreation may be conferred upon any student who satisfies the entrance requirements and offers 128 hours with an average of "C." Candidates for Physical Education degrees must also meet certain School and departmental requirements.

Each undergraduate must pass a proficiency examination in English after the beginning of his Junior year in order to qualify for graduation. He shall take the examination during the first semester of his Junior year, and if not declared proficient, shall repeat the examination as many times as necessary. It is the student's responsibility to make arrangements with the English Department to take the examination.

PHYSICAL EDUCATION: REQUIRED AND ELECTIVE SUBJECTS

Of the 128 hours which are required for the degree of Bachelor of Science in Physical Education, at least 45 hours are required in the School of Physical Education

and Athletics. The remaining hours must be selected from such courses as may be approved by the adviser. A candidate for a degree is advised to make a selection of one of the teaching combinations on page 372 and to complete the number of semester hours required in each teaching group.

Courses are arranged to meet University requirements for the degree of Bachelor of Science in Physical Education as well as state requirements for teacher certification. The curriculum for the four-year course has been so arranged that consideration is given to various activities which should constitute a well-rounded program of physical education for boys and girls of high-school age. The courses are arranged in ten groups as follow:

A. Required activity courses in Physical Education for men: P.E. 52, 53, 54, 66, 121, 125, 126, 132, 135. 151, 152; and for women:
P.E. 31, 32, 33, 36, 54, 61, 63, 66, 130, 131, 132, 133, 135.
B. Required theory courses in Physical Education for both men and women unless otherwise indicated are: P.E.35 (W)*, 71, 77, 175, 176 (M), 178 (W), 191, 225 (M), 278.
C. Required courses in Recreation: Rec. 1, 2.
D. Required courses in Health Education: Health Ed. 2 and 101.
E. Required courses in Safety Education: Safety Ed. 127 (W) and Safety Ed. 181.
F. Required courses in English.
G. Required courses in science which furnish a background for physical education.
H. Required courses in Education which consider the principles of general education.
I. Required courses in social studies.
J. Required courses in Music and Art.
K. Required courses in Military Science and Tactics and Air Science for men of the University.
L. Elective courses which are taken at the pleasure of the student.

It is understood that a sound and vigorous body is essential to all students who elect this curriculum. Each student must therefore pass a thorough physical examination before he will be allowed to enroll in this program. Special emphasis is placed upon personal and professional qualifications of the student as well as upon a high standard of scholarship.

Student teaching in physical education is available in the University High School, the University Laboratory Elementary School, and in the elementary schools of Morgantown. Opportunity is provided also in the High School for practice coaching of high school athletic teams. Student assistance in the General Program in physical education is required of both men and women.

Advisers

Designated members of the staff of the School of Physical Education and Athletics serve as class advisers for all major students in Physical Education and Recreation.

It is the student's responsibility to know the requirements for graduation, second teaching field, and for certification. All students are urged to get acquainted with these regulations immediately.

Recommendation for Certification

The prospective teacher who intends to apply for certification for school service in the state should take care to satisfy requirements for other teaching fields and required courses in Education and Physical Education.

Certification Requirements

For a statement of the conditions governing the preparation of high school teachers and their recommendation to the State Board for certification, see the bulletin, *Teacher Selection, Guidance, Training and Certification*. This bulletin may be obtained at the Registrar's office.

*Courses marked (M) are open to men; courses marked (W) are open to women; all others are open to both men and women.

Suggested Teaching Combinations for First-class High School Certification†

1. Physical education and biological science.
2. Physical education and mathematics.
3. Physical education and social studies.
4. Physical education and English.
5. Physical education and physical and general science.
6. Physical education and physical science.
7. Physical education and biological and general science.
8. Physical education and industrial arts.
9. Other combinations approved by the adviser.

THE CURRICULUM FOR PHYSICAL EDUCATION MAJORS

Degree: Bachelor of Science in Physical Education

The curriculum for majors is organized to provide professional preparation for men and women who are desirous of becoming teachers of health and physical education in high schools and colleges. The courses are arranged to meet the University requirements for the degree of Bachelor of Science in Physical Education as well as the state requirements for teacher certification.

The following hours are required: Physical Education for men (36), for women (33); Health Education (4); Recreation (4); Safety Education (W) (4); (M) (2); English (12); Social Studies (14); Science (12); Education (20); Military Science and Tactics or Air Science (M) (8); Art (2); Music (2); pertinent electives by advisement.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Biology 1	4	History 2	3
History 1	3	Biology 2	4
Music 10	2	Mil. or Air Sci. (M)	2
Mil. or Air Sci. (M)	2	Recreation 1	2
P.E. 31 (W)	1	P.E. 52 (M)	1
P.E. 5	0	H.Ed. 2	2
P.E. 35 (W)	2	P.E. 32 (W)	1
P.E. 71	2	P.E. 36 (W)	1
Men	16	Men	17
Women	17	Women	16

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Education 105	3	Education 106	3
Soc. Sci. 1	4	Soc. Sci. 2	4
Eng. 18 or 21	3	P.E. 77	3
Mil. or Air Sci. (M)	2	Mil. or Air Sci. (M)	2
Recreation 2	2	P.E. 54	2
P.E. 61 (W)	1	P.E. 66	1
P.E. 53 (M)	2	English 5 or 6	3
P.E. 63 (W)	1		
Art 30	2		
P.E. 33 (W)	1		
Men	18	Men	18
Women	17	Women	16

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
P.E. 121 (M)	2	Zool. 171	4
P.E. 125 (M)	1	P.E. 126 (M)	1
S.Ed. 127 (W)	2	P.E. 132	1
P.E. 151 (M)	3	P.E. 176 (M)	2
P.E. 133 (W)	1	P.E. 178 (W)	2
P.E. 225 (M)	2	P.E. 152 (M)	2
P.E. 175	5	P.E. 131 (W)	1
Safety Ed. 181	2	P.E. 135	1
H.Ed. 101	2	Electives (M)	6
P.E. 130 (W)	1	Electives (W)	7
Electives (W)	3		
Men	17	Men	17
Women	16	Women	16

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr*
P.E. 191	2	P.E. 278	3
*Ed. 114)	3	*Ed. 114)	3
*Ed. 120) or	2	*Ed. 120) or	2
*Ed. 124) elect.	4	*Ed. 124) elect.	4
*Ed. 152)	2	*Ed. 152)	2
Electives	3	Electives	2
Men	16	Men	16
Women	16	Women	16

†Required for those students desiring certification for teaching.
*Required for those students desiring certification for teaching which may be taken either the first or second semester of Senior year.

Recreation Minor for Physical Education Majors

For students who, in addition to preparing for physical education as a first teaching field, have also the objective of fitting themselves for recreation leadership responsibilities in schools or in recreation programs sponsored by or in conjunction with school systems, a recreation minor is available. Such a minor also will add opportunities for service and increased income in summer recreation programs in communities, industries, or private agencies. Students are encouraged to take the following courses as a minimum:

	Hours
Recreation 3 (Camping)	2
Recreation 5 (Arts and Crafts)	2
Recreation 7 (Music)	2
Recreation 10 (Recreation Dramatics)	2
Recreation 106 (Leadership Techniques)	2
Recreation 122 (Youth Organization & Group Work in Recreation)	2
Recreation 201 (Social Events & Special Events)	2
Journalism 212 (Public Relations)	2
	16

RECREATION: REQUIRED AND ELECTIVE SUBJECTS

The major curriculum in recreation is planned primarily to prepare for professional responsibilities in community recreation systems and services, public and private, in industries, public housing, and similar fields.

Of the 128 hours which are required for the degree of Bachelor of Science in Recreation at least 54 hours are required in the School of Physical Education and Athletics. The remaining hours must be selected from courses approved by the adviser. It is generally advisable for those entering the recreation profession to prepare themselves in at least one interest area in addition to the physical education activities, by electing as many courses as possible in arts and crafts, or dramatics, or music, or nature recreation.

During the summer between the junior and senior years all Recreation majors are required to do at least eight weeks of supervised recreation leadership field work. The selected agency in which the student will do his work must be approved by the School of Physical Education and Athletics. Arrangements will be made for agency supervision and periodic visitation by the faculty supervisor. Evaluation of reports and observations will be made with the student.

The courses are arranged in nine groups and meet University requirements for the degree of Bachelor of Science in Recreation.

A. Required courses in Recreation: Recreation 1, 3, 5, 7, 8, 10, 102, 104, 106, 122, 201, 202, 204, 271, and 282.
B. Required courses in Physical Education.
C. Required courses in Health Education.
D. Required courses in Safety Education.
E. Required courses in English and Speech.
F. Required courses in Science.
G. Required courses in Education.
H. Required courses in Social Studies.
I. Required courses in Military Science and Tactics or Air Science for men of the University.
J. Elective courses: Students preparing themselves for a particular field of recreation leadership responsibility will elect courses strengthening themselves for the field selected. For example, those interested in industrial recreation will elect Recreation 283 and such other courses as labor relations and personnel management. Recreation leadership in social, municipal and governmental fields, rural areas, and in school-sponsored programs in similar fashion require special complementary courses pertinent to each field.
K. One summer (at least 8 weeks) supervised field work (Rec. 145).

THE CURRICULUM IN RECREATION

Degree: Bachelor of Science in Recreation

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Humanities 1	4	Humanities 2	4
Biology 1	4	Speech 50	3
P.E. 5	0	P.E. 32 (W)	1
P.E. 31 (W)	1	P.E. 36 (W)	1
P.E. 33 (W)	1	P.E. 54 (M)	2
P.E. 35 (W)	2	Rec. 1	2
P.E. 53 (M)	2	Mil. or Air Sci. (M)	2
P.E. 61 (W)	1	Elective (W)	2
Mil. or Air Sci. (M)	2		
Elective (M)	1		
Men	16	Men	16
Women	16	Women	16

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Soc. Sci. 1	4	Soc. Sci. 2	4
Psychology 1	3	Speech 11 (M)	3
Speech 11 (W)	3	P.E. 54 (W)	2
Music 77	1	P.E. 66	1
Rec. 5	2	Rec. 3	2
Rec. 7	2	Rec. 8	2
P.E. 151 (M)	3	Rec. 10	2
Mil. or Air Sci. (M)	2	Mil. or Air Sci. (M)	2
Elective (W)	1	Elective (W)	3
Men	17	Men	16
Women	16	Women	16

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Rec. 106	2	Ed. 105	3
H. Ed. 101	2	P.E. 132	1
P.E. 52 (M)	1	P.E. 135	1
S.Ed. 127	2	Rec. 102	2
P.E. 175	5	Rec. 104	2
Rec. 122	2	Rec. 145	3
Electives (M)	2	Electives	4
Electives (W)	3		
Men	16	Men	16
Women	16	Women	16

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Journalism 212	2	Sociology Course (200 level)	3
Social Work Course (200 level)	3	Rec. 202	3
Rec. 201	2	Rec. 271	3
Rec. 204	2	Pol. Sci. 101	3
Rec. 282	2	Electives	4
S.Ed. 181	2		
Rec. 296	2		
Electives	1		
Men	16	Men	16
Women	16	Women	16

ELECTIVES

Art 121 (Fundamentals of Design)	3	Speech 120 (Group Discussion)	3
Art 122 (Fundamentals of Design)	3	Speech 200 (Art of Storytelling)	3
Art 127 (Crafts)	2	Speech 268 (Creative Dramatics)	2
Art 30 or 130 (Appreciation of Art)	2	Speech 161 (Stage Scenery)	3
English 5 (American Literature)	3	Speech 162 (Play Directing)	3
English 182 (Masterpieces of English Literature)	3	Speech 163 (Stage Lighting)	3
Psych. 115 (Psych. & Industry)	3	Speech 164 (Theatre Workshop)	1-3
Psych. 116 (Social Psych.)	3	Sociology 205 (Urban Sociology)	3
Psych. 125 (Mental Hygiene)	3	Sociology 206 (Rural Sociology)	3
Zool. 265 (Ornithology)	3	Sociology 210 (Marriage & Family)	3
Forestry 142 (Rec. Development)	2	Sociology 211 (Soc. of Childhood)	3
Home Ec. 133 (Home Crafts)	2	Sociology 231 (Race Relations)	3
Journ 11, 12 (Newspaper Reporting)	6	Sociology 244 (Culture & Personality)	3
Rec. 206 (Social Recreation)	2	Economics 115 (Labor Problems)	3
Social Work 221 (Field of Social Work)	3	Education 221 (Audio-visual Resources for Instruction)	2
Social Work 230 (History of Social Work)	3	Music 10 (Music in Human Relations)	2

The major curriculum in Recreation is planned primarily to prepare for professional recreation responsibilities in community systems and services, public and private, in industry, public housing and similar fields. Recreation majors who wish to be certified to teach physical education should take during the regular four-year period, and in whatever additional semesters are necessary, the following courses in addition to those listed in the Recreation curriculum:

Course Number and Title	*Men*	*Women*
P.E. 38 Dance Composition		2
P.E. 63 Hockey and Volleyball		1
P.E. 71 Orientation in Physical Education	2	2
P.E. 77 History and Principals of Physical Education	2	2
P.E. 121 Athletic Training and First Aid	2	
P.E. 125 General Program Assisting	1	
P.E. 126 General Program Assisting	1	
P.E. 133 Tap Dance		1
P.E. 152 Theory and Fundamentals of Coaching Wrestling & Track	2	
P.E. 176 Modified and Corrective Activities	2	
P.E. 178 Modified and Corrective Activities		2
P.E. 191 Introduction to Tests in Health and Physical Education	2	2
P.E. 225 Officiating Football and Basketball	2	
P.E. 278 Administration of Physical Education	3	3
H.Ed. 2 Personal and Community Hygiene	2	2
English 18 Advanced English Composition	3	3
Zoology 171 Human Physiology	4	4
Plus Education 106, 120, 152, 114, 124, and Elect. 3 hours	17	17

Recreation Minor

Those students who are majoring in fields other than physical education (e.g. art, music, social work, education, etc.) may elect to work for a minor in recreation. This will equip them for leadership responsibility in various types of recreation service such as private agencies, industries, summer recreation programs in communities. Students majoring in Education may prepare themselves for recreation leadership in schools or in recreation programs sponsored by or in conjunction with school systems. The following courses are required for a minor in Recreation:

		Hr.
Rec. 1	Introduction to Recreation	2
Rec. 2	Indoor and Outdoor Recreation Centers	2
Rec. 3	Camping	2
Rec. 5	Introduction to Arts & Crafts in Recreation	2
Rec. 7	Introduction to Music in Recreation	2
Rec. 8	Introduction to Nature Recreation	2
Rec. 10	Introduction to Dramatics in Recreation	2
Rec. 106	Leadership and Leadership Techniques	2
Rec. 122	Youth Organizations & Group Work in Recreation	2
Rec. 201	Social Events in Recreation	2
P.E. 54	Minor Sports	2
P.E. 52 (M)	or 33 (W) Swimming	1
P.E. 132	Folk Dance	1
P.E. 135	Ballroom Dance	1
Journalism 122	Public Relations	2
		27

GRADUATE SCHOOL

The School of Physical Education and Athletics offers courses leading to the Master of Science Degree, with an emphasis in Health Education, Physical Education, or Recreation; or combinations of all three areas.

Students are admitted for graduate work in the School of Physical Education and Athletics provided they hold a baccalaureate degree from an approved college and satisfy prerequisites in the courses for which they register.

Students are accepted as advanced degree candidates upon written application to the Committee on Graduate Courses of the School of Physical Education and Athletics and a preliminary qualifying examination following one semester, or two summer terms, (12 semester hours) of graduate residence work* provided they:

A. Have at least 24 semester hours or its equivalent** which is an undergraduate minor in either physical education, health education, recreation, or a combination in these areas. The equivalent is determined by the Committee on Graduate Courses.

Physical Education Courses:

Anatomy; Physiology, Kinesiology	4
Health Problems for the School Child; Hygiene	4
Principles, or Organization and Administration of Health and Physical Education, or Leadership Activities	2
Physical Inspection and Correction of Remedial Defects	1
Theory and Practice of Physical Education as follows†	13

	Men	*Women*
Orientation in Physical Education	2	2
Team Sports	3-5	3
Recreational Activities, including Individual and Dual Sports	1-3	1-3
School and Community Activities such as Games, First Aid	1-4	1-4
Rhythmic Activities	1	3

Recreation Courses:

Interpretation of Recreation	2
Sports and Physical Activities	4
Recreation Skills Courses	6
Camping and Nature Recreation	4
Public Relations	2
Community Recreation	2
Community Organization	2
Recreation Leadership	2

B. Demonstrate to the satisfaction of the Committee on Graduate Study a grasp of the important phases and problems of the field, the ability to successfully complete the program of study, and give promise for professional leadership.

ADMISSION TO THE GRADUATE SCHOOL

Students who wish to enter Graduate School file application for admission with the Registrar of the University, who will forward the application to the Dean of the Graduate School. The applicant must request the registrar of the college or university previously attended to send an official transcript directly to the Registrar of the University. The application and transcript should be received by the Registrar of the University at least one month in advance of registration days. Application forms may be obtained from the Registrar of the University.

Admission to Graduate School does not constitute admission to candidacy for the Master of Science Degree. The Dean of the Graduate School and the Graduate adviser in the School of Physical Education will advise the student concerning departmental prerequisites and advanced degree requirements.

OPTIONAL ROUTES TOWARD THE MASTER OF SCIENCE DEGREE

A. Thirty semester hours, including six semester hours of research (Physical Education 399, Thesis). Examination (oral or written, or both at the discretion of the individual members of the committee) by the candidate's

*Courses taken in University Extension are accepted for degree purposes, provided the student has had prior approval from his adviser.

**Experience in teaching Health, Physical Education and Recreation Leadership, and coaching experience may be evaluated by special examination to adjust some of the undergraduate requirements.

†No credit in Physical Education shall be allowed for participation in Intercollegiate Sports.

advisory committee. One-half of the hours (15) required for the degree must be in courses numbered 300 or above. (All of the course work may be in Health, Physical Education and Recreation.) However, a minimum of 18 semester hours, exclusive of the thesis, must be in the area of Health, Physical Education, and/or Recreation.

B. Thirty-six semester hours, including a minimum of 24 hours in Health, Physical Education and/or Recreation and a minimum of 9 semester hours of approved course work outside of Health, Physical Education and Recreation. Examination (oral or written, or both) at the discretion of the individual members of a committee of three, at least one of whom shall represent Schools other than Physical Education. One-third of the hours (12) required for the degree must be courses numbered 300 or above.

COURSES OF INSTRUCTION

HEALTH EDUCATION

2. Personal and Community Health. I, II. 2 hr. Those phases of hygienic living which should be understood by all college students. Special emphasis on personal aspects of hygiene. Mr. Semon

50. Narcotic Education. I. 3 hr. The uses and abuses of alcohol and narcotic drugs. Mr. Northup

101. The School Health Program. I, II, S. 2 hr. PR: Ed. 105, 106. A study and analysis of the health program which takes place in the school or through the efforts of school personnel; the organization, educational aspects, and personnel relationships involved in school health services, healthful school living and health education. Required for teacher certification. Mr. Holter

200. Narcotic Education. S. 3 hr. PR: H.Ed. 101, 14 hours in education or equivalent. The uses and abuses of alcohol and narcotic drugs; physical and psychological effects of chronic alchoholism and narcotic addiction; social and public health problems involved. This course is a joint offering by the School of Medicine, College of Pharmacy, Department of Social Work, and the School of Physical Education. Mr. Fulton, Mr. Holter, Mr. Northup and Mr. Hayman

201. Advanced School Health. I, S. 2 hr. PR: H.Ed. 2 and H.Ed. 101, or equivalent. An analysis of problems in school health services, healthful school living, the nature of health education and the scope of health instruction which confronts teachers and administrators. Mr. Holter

203. School Mental Health. II, S. 3 hr PR: H.Ed. 101; 20 hours in Education, or equivalents. Designed to promote teacher understanding and efficiency in dealing with the emotional growth of normal boys and girls. The problems, factors, and techniques involved in developing the human relation skills in the school situation. Mr. Holter

301. Community Health. II, S. 3 hr. PR: H.Ed. 2 and 101, or equivalents. Health problems requiring community action, basic public health activities, community organization for health protection, voluntary health agencies, school health program and the role of state and federal agencies in the community health program. Mr. Holter and Visiting Lecturers

376. Evaluation of Health Information. I, S. 3 hr. PR: H. Ed. 2; 101 or 14 undergraduate hours in Education. Study of published material to determine basic scientific accuracy and value. Mr. Holter

PHYSICAL EDUCATION

1. General Program for Men. I. 1 hr. (See page 369). Mr. Tork and Staff

2. General Program for Men. II. 1 hr. (See page 369). Mr. Tork and Staff

3. Folk Dance. II. 1 hr. Staff

4. Golf and Bowling. I, II. 1 hr. Staff

5. Ballroom Dance. I, II. No credit. Staff

6. Stunts, Tumbling, and Trampoline. I, II. 1 hr. Staff

7. Archery. I, II. 1 hr. Staff

8. Minor Sports. I, II. 1 hr. Staff

9. Athletics. I. 1 hr. Soccer and Volleyball. Staff

10. Athletics. II. 1 hr. Basketball and Softball. Staff

11, 12. Adapted Activities. I, II. 1 hr. (May be substituted for the required courses on recommendation of the Health Service.) Staff

13. Tennis and Bowling. I, II. 1 hr. Staff

14. Elementary Swimming and Diving. I, II. 1 hr. Staff

15. Advanced Swimming and Diving. I, II. 1 hr. Staff

16. Lifesaving and Water Safety. I, II. 1 hr. (Opportunity to qualify for American Red Cross Senior Life Saving Certificate.) Staff

17. Elementary Modern Dance. I, II. 1 hr. Mrs. Wiedebusch

18. Advanced Modern Dance. I, II. 1 hr. PR: Phys Ed. 17. Mrs. Wiedebusch

19. Modern Dance. I, II. 1 hr. (M) Techniques of modern dance. Mrs. Wiedebusch

20. Beginning and Intermediate Swimming. I, II. No credit. (M) Instruction in the basic swimming strokes and beginning diving. All physical education and recreation majors who do not pass the swimming skill test (administered during the freshman week program) must register for this course. Mr. Bonsall

25. Fencing. I II. 0 hr. Staff

31. Athletics. I. 1 hr. (W). Fundamentals, skills, and practice in playing soccer and basketball. Mrs. Beto

32. Athletics. II. 1 hr. PR: P.E. 31. (W). Techniques and practice in teaching and officiating basketball. Fundamental skills and practice in softball. Mrs. Beto

33. Swimming and Diving. I. 1 hr. PR: P.E. 14 or equivalent. (W) Staff

35. Movement and Its Rythmic Structure. I. 2 hr. (W). Understanding of the nature and scope of rhythm in physical education programs. Mrs. Wiedebusch

36. Modern Dance Technique. II. 1 hr. (W). PR: P.E. 35. Mrs. Wiedebusch

37. Advanced Modern Dance. I, II. 1 hr. PR: P.E. 36. (W) Continuation of P.E. 36 including methods of teaching. Mrs. Wiedebusch

38. Dance Composition. II. 2 hr. PR: P.E. 35, 36. (W) Problems in force, time, and space as elements of expressive movement. Mrs. Wiedebusch

*41. Physical Education for Elementary Teachers. I. 1 hr. (W). A variety of basic activities giving an understanding of content in the total physical education program of the elementary school. Staff

*42. Physical Education for Elementary Teachers. II. 1 hr. (W). A continuation of P.E. 41. Staff

*43. Physical Education for Elementary Teachers. I. S. 2 hr. Philosophy, objectives, identification of physical education, health education and recreation, and a broad selection of activities adapted to the primary and intermediate level. Laboratory work and observation in the elementary schools are required. Mr. Tork & Mrs. Wiedebusch

These courses are required for certification of applicants for Elementary School teaching certificates.

52. Advanced Swimming, Life Saving and Water Safety. I, II. 1 hr. (M) PR: P.E. 20 or equivalent. Theory and practice in aquatics and water safety, opportunity to qualify for American Red Cross Senior Lifesaving Certificate. Mr. Bonsall

53. Program of Activities. I. 2 hr. Theory and fundamentals of speedball, soccer, volleyball, touch football, and tumbling. Mr. Gainsford

54. Minor Sports. II, S. 2 hr. Theory and practice in fundamentals of badminton, bowling, golf, handball, and tennis. Mr. Semon

61. Stunts, Tumbling, and Trampoline. II. 1 hr. (W). Staff

63. Hockey and Volleyball. I. 1 hr. (W). Fundamentals, skills, and practice. Staff

66. Graded Games and Lead-up Games. II. 1 hr. Games for all ages which may be used in home, school, playground, and gymnasium, and lead-up games in various sports. Miss Hurst and Mr. Yost

68. Officiating Athletics. II. 1 hr. (W). Rules, techniques, and laboratory work. Mrs. Beto

70. Sports Appreciation. I, II. No credit. PR: None. Spectator interest and understanding of sports. Movies, lectures and discussion. Staff

71. Orientation in Physical Education. I. 2 hr. Purposes, scope, and possibilities in health education, physical education, recreation, and coaching in a school program. Mr. Duncan and Mr. Semon

77. History and Principles of Physical Education. II. 3 hr. Development of physical education from early civilization to present time. Basic principles underlying modern programs. Miss Griffin

101, 102. General Program for Junior and Senior Women. I, II. 1 hr. (See page 13). Staff

121. Athletic Training and First Aid. I. 2 hr. (M). Lectures, demonstrations, and practice work in training and first aid in athletics. Mr. Gwynne

124. Instructorship in Swimming, Lifesaving and Water Safety. II. 1 hr. PR: P.E. 52 or equivalent. Teaching methods in swimming and water safety. Meets American Red Cross Certification standards and course completion carries eligiblity for teaching swimming, life saving, and water safety. Open only to students who have valid lifesaving cards. Mr. Yost

125. General Program Assisting. I. 1 hr. (M). Mr. Tork and Staff

126. General Program Assisting. II. 1 hr. (M). Mr. Tork and Staff

130. General Program Assisting. I. 1 hr. (W). Miss Griffin and Staff

131. General Program Assisting. II. 1 hr. (W). Miss Griffin and Staff

132. Folk Dance. II. 1 hr. European and American folk dances. Miss Hurst

133. Tap Dance. I. 1 hr. (W). Elective (M). Miss Hurst

135. Ballroom Dance. I, II. 1 hr. PR: P.E. 5 or equivalent. Methods of teaching. Mrs. Wiedebusch

151. Theory and Fundamentals of Coaching Baseball, Basketball, and Football. I. 3 hr. Messrs. Harrick, Schaus, Lewis, Crane and Shockey

152. Theory and Fundamentals of Coaching Wrestling and Track. II. 2 hr. Messrs. Harrick and Smith

171. Dance Accompaniment. II. 1 hr. PR: One semester of Modern Dance. Practice in percussion accompaniment and selection of music suitable for dance. Mrs. Wiedebusch

175. Anatomy and Kinesiology. I, II. 5 hr. Principles of mechanics of bodily movement in relation to anatomical structure. Mrs. Beto

176. Modified and Corrective Activities. II. 2 hr. PR: P.E. 175. (M). Analysis of normal posture and individual deviations with treatment of latter by physical activity and massage. Personal health problems that can be treated by exercise. Mr. Yost

178. Modified and Corrective Activities. II. 2 hr. PR: P.E. 175. (W). Analysis of normal posture and individual deviations with treatment of latter by physical activity and massage. Personal health problems which can be treated by exercise. Miss Hurst

191. Introduction to Tests in Health and Physical Education. I. 2 hr. A background course in physical achievement tests. History of development; review of outstanding tests. Essential procedures used in evaluating tests and their results, including statistical analysis. Mr. Yost

205. Coaching Workshop. S. 1-6 hr. PR: P.E. 151 and P.E. 152. (Experience in teaching and coaching may be evaluated to meet prerequisites since the workshop is designed for persons engaged in actual coaching.) An analysis and evaluation of a specific system for each sport, in terms of offensive, defensive, individual and team play, and associated problems of methodology, staff organization, scouting, and administration. Staff and Visiting Instructors

209. Rhythms and Dance. S. 3 hr. PR: P.E. 35 and P.E. 132, or consent of instructor. Designed for teachers in elementary and secondary schools. Principles of movement, materials, and practicum in dance. Miss Hurst

210. Program in Sports. S. 3 hr. PR: P.E. 31 and P.E. 32, or consent of instructor. Designed especially for women engaged in teaching and coaching. Organization and administration of individual, dual and team sports. Practicum in girls' and women's sports. Mrs. Beto

224. Physiology of Exercise. I, S. 2 hr. PR: Anatomy and physiology. Analysis of physiological changes which occur in the body during exercise. Mr. Yost

225. Officiating Football and Basketball. I. S. 2 hr. PR: P.E. 151 or equivalent. Rules, techniques of officiating, officials' organizations, and laboratory work. Mr. Tork

278. Administration of Physical Education. II, S. 3 hr. PR: Completion of first three years of physical education or consent of instructor. Modern theories in physical education and guiding principles in organization and administration of the program. Mr. Duncan and Mr. Semon

279. Administration of Athletics. S. 3 hr. PR: Experience in coaching and administration. The course is designed for persons engaged in actual coaching or administration. A study of the problems associated with the organization and administration of interscholastic and intercollegiate athletic programs and their relationship to physical education. Mr. Barnett and Mr. Duncan

287. History of Physical Education. I, II, S. 2 hr. PR: Consent of instructor. Development of physical education programs and relationship to general education and world movements. Miss Griffin

290. Program Planning in Physical Education. I, II, S. 2 hr. PR: consent of instructor. Formulation of criteria for continuous program revision in accord with educational principles. Selection of activities to meet individual needs, abilities, interests. Miss Griffin

292. Principles and Program of Physical Education in Elementary Schools. I, S. 2 hr. PR: Completion of 4 hours in physical education and 2 hours in health education. Relation of physical education in elementary schools to present-day educational philosophy and procedure. Analysis of courses of study of outstanding city and state departments as a background for formulating tentative curricula and use in local situations. Mr. Tork

293. Organization and Administration of Intramural Sports for Men and Women. I, S. 2 hr. PR: 4 hr. of physical education activity courses. Critical analysis with view to justification from standpoint of objectives and of contribution to general welfare of students participating. Organization and administration of programs for men and women on secondary and college levels. Mr. Semon

294. Modern Trends and Principles of Physical Education. I, II, S. 2 hr. PR: Consent of instructor. Critical analysis of bases for physical education programs. Recent trends affecting planning on each educational level, and probable growth of responsibilities of instructors. Miss Griffin

295. Principles and Practices of Adapted Physical Education. I, S. 2 hr. PR: Zool. 171, P.E. 175, or equivalent. Principles and philosophy in building an adapted program, types of injuries, classification of students and application of adapted exercises. Mr. Yost

374. Psychology of Coaching. II, S. 2 hr. PR: P.E. 151, 152, and 225 or equivalents. Psychological principles in coaching athletic sports. Laws of learning, current experiments, and selection of teaching material. Mr. Tork

378. Problems of Physical Education, Health, and Recreation. I, II, S. 3 hr. PR: P.E. 278, Rec. 202, or 14 semester hours in undergraduate education. Content and relationships among physical education, health education, and recreation programs. Aims to develop critical analysis. Follows seminar procedure and presupposes broad academic experience on part of the student. Mr. Holter and Mr. Yost

389. Tests and Measurements in Health and Physical Education. II, S. 3 hr. PR: P.E. 191 or equivalent. Critical and statistical analysis of outstanding tests in health and physical education and their results. Mr. Holter

396. Research Seminar in Health, Physical Education, and Recreation. II, S. 3 hr. PR: P.E. 378. Limited to advanced students. Research techniques as basis for compiling and organizing materials for research projects. Each student completes an individual project. The Master's thesis may be initiated in the course. (Required of all candidates for the Master of Science degree.) Mr. Holter and Mr. Yost

397. Individual Research Problems in Health and Physical Education. I, II, S. 1-4 hr. PR: P.E. 378 and 396. Opportunity for independent study and investigation of pertinent problems. For advanced students with practical experience. Mr. Holter and Mr. Yost

399. Thesis. I, II, S. 2-6 hr. PR: P.E. 378 and 396. Mr. Holter, Mr. Scherlacher and Mr. Yost

RECREATION

1. Introduction to Recreation. II. 2 hr. A framework into which the other recreation courses with all their implications will fit. History, trends, concepts, relationship to other fields; survey of national organizations, leaders, and literature. This course is basic to all other recreation courses. Mr. Scherlacher

2. Indoor and Outdoor Recreation Centers. I. 2 hr. PR: Rec. 1. Introduction to leadership planning and operation of programs, areas and facilities. Mr. Jeffrey

3. Camping. II. 2 hr. PR: Rec. 1. Introduction to the camping movement. Purposes, camp sites and equipment, activities, vocational opportunities, and qualifications of camp personnel, particularly the counselor's relationship to outdoor living. Mr. Jeffrey

5. Introduction to Arts and Crafts in Recreation. I. 2 hr. Workshop course. Place of arts and crafts in recreation, their organizations, and integration with other phases of recreation. Staff

7. Introduction to Music in Recreation. I. 2 hr. Function of music in recreation program and how it is organized and adapted to meet varied tastes and needs. Staff

8. Introduction to Nature Recreation. II. 2 hr. Lecture and workshop course; Methods and approaches of nature lore in recreation, including camping. Staff

10. Introduction to Dramatics in Recreation. II. 2 hr. Workshop course. Importance and organization of dramatics in a recreation program; adaptation to various phases of recreation to meet varied needs; methods of presentation. Staff

102. Program Planning. II. 2 hr. PR: Rec. 1. Fundamentals for general program planning; considering needs, facilities, age groups, local customs, climatic factors, etc. Planning involved in specific activities. Mr. Jeffrey

104. Functional Planning of Recreational Facilities. II. 2 hr. PR: Rec. 1. Problems and principles governing the planning for function and the effective usage of facilities in recreation. Adaptation of existing facilities for multiple use. Mr. Scherlacher

106. Leadership and Leadership Techniques. II. 2 hr. PR: Rec. 1. Meaning of leadership, its application to field of recreation, and analysis of techniques. Mr. Jeffrey

122. Youth Organizations and Group Work in Recreation. II. 2 hr. PR: Rec. 1. National organizations such as 4-H Clubs, Y.W.C.A., Boys Clubs, Y.M.C.A., etc., will be studied as to how they fit into the community picture and what leadership approach they use. Examination of social group-work method. Mr. Scherlacher

145. Field Work. 3 hr. Recreation majors are required to have at least 8 weeks of supervised recreation leadership field work. Usually during summer following junior year. Arrangements under direction of adviser. Staff

201. Social Events in Recreation. I, S. 2 hr. PR: 1, 102, or equivalent. Workshop course. Planning and organization of parties, banquets, dances, tours, picnics, and other special social programs. Actual social events will be staged as class projects. Mr. Jeffrey

202. Philosophy of Recreation. II, S. 3 hr. PR: Major students in recreation, graduate students in education and physical education or consent of instructor. Interpretation of recreation as a basic part of the living process; importance to individual, community, and national welfare; social and economic significance. Mr. Scherlacher

204. Recreation Hobbies. I, S. 2 hr. PR: Rec. 1 or equivalent. Lecture and workshop. Value of hobbies to youth and adults; participation in various types of hobbies; methods of organization and presentation; nature and scope. Mr. Scherlacher

206. Social Activities for School-Age Groups. I, S. 2 hr. PR: Rec. 1, P.E. 66 or equivalent. Social activities in recreation adaptable to school-age recreation programs. Mr. Jeffrey

264. Co-Recreation. S. 2 hr. PR: 12 hours in education. Psychology of co-education group participation in recreational activities at the secondary-school age level. Workshop sessions in the various recreation interest areas applicable to teenagers. Mr. Jeffrey

271. Administration of Camps and Preparation of Camp Counselors. II, S. 3 hr. PR: Rec. 1, 2, 3, or equivalent. Principles involved in modern camping programs; methods of organization and administration of camps. Mr. Jeffrey

282. Administration of Recreation. I, S. 2 hr. PR: Major students in recreation, graduate students in education and physical education or consent of instructor. Interpretation of recreation as basic part of the living process; importance to individual, community, and national welfare; social and economic significance. Mr. Scherlacher

283. Organization and Development of Industrial Recreation. II, S. 2 hr. PR: Rec. 1, 2, 3, 282 or equivalent. Primarily for students who have had some work or experience in recreation and are interested in a more complete knowledge of the field. Mr. Tork

294. Recreation Leadership in Groups. II, S. 2 hr. PR: 5 hours general and educational psychology; Rec. 122 or its equivalent; and at least 1 year of leadership experience with teen-age children. For those working in voluntary agencies such as Y.M.C.A., Boy Scouts, Girl Scouts, etc. Also for those responsible for special-interest groups in extra-curricular activities. Mr. Scherlacher

295. Leadership in Nature Recreation. II, S. 2 hr. PR: 5 hrs. in biology, botany, or zoology, or combinations; Rec. 1, 2, 3. or its equivalent; and at least 1 year of leadership experience with teen-age children. For recreation leaders, camp counselors, and teachers who work with school age children in camps or in special-interest groups. Mr. Scherlacher

296. American Folk Dance. II, S. 2 hr. PR: P.E. 132 or equivalent. Study of American Square and Round Dances and their place in recreation, their origin and relationship to American culture and folklore. Analysis of techniques in leading and calling. Mr. Scherlacher

297. Music and Dramatics in Recreation. S. 3 hr. PR: Rec. 1, or 7 and 10, or 20 hours of Education or equivalent. The place of music and dramatics in recreation programs sponsored by municipal, voluntary and school agencies. How these two interest areas are woven into recreation programs with emphasis in the informal leadership approach. Also their use in camp programs.
Mr. Scherlacher and Visiting Instructors

305. Human Interest Areas in Recreation Planning. I, II, S. 3 hr. PR: Recreation 202 or 20 hours in Education or equivalent. Exploration of the human interest areas which are the sources of recreation program content. Their adaptation to school and municipal recreation program planning.
Mr. Scherlacher and Visiting Instructors

306. Leadership in School-Age Recreation Program. II, S. 2 hr. PR: Rec. 106 or 2 years' teaching experience. Leadership techniques used in various recreation activities of school-age groups. Analysis of differences between teaching and recreation leadership. Mr. Jeffrey

307. Community Recreation. I, S. 3 hr. PR: Rec. 202 or consent of instructor. A study of problems related to the provision of adequate recreation service for a community. Standards and quality of recreation service; methods of measuring existing services and their coordination; and community organization procedures. Course is designed for leaders in voluntary agencies, schools, churches, and municipal recreation organizations.
Mr. Scherlacher and Visiting Instructors

397. Individual Research Problems in Recreation. I, II, S. 1-4 hr. PR: Rec. 202 and P.E. 378. Opportunity for independent study and investigation of pertinent problems. For advanced students with practical experience. Mr. Scherlacher

SAFETY EDUCATION

127. First Aid. I, S. 2 hr. Standard and advanced first aid as outlined by American Red Cross. Miss Hurst and Mr. Yost

128. Instructorship in First Aid. II. 1 hr. PR: S.Ed. 127. Meets American Red Cross Certification Standards and the course completion carries eligibility for teaching First Aid. Open only to students who have valid advanced cards.
Mr. Yost

181. Principles of Safety Education. I. 2 hr. An introductory course. Basic principles of safety education and accident prevention. Deals with the development of the safety movement and its place in education. Miss Griffin

182. Driver Education. II. 2 hr. PR: S.Ed. 181 or equivalent; two years driving experience, valid drivers' license, good health. Designed to prepare teachers to teach driver education Classroom and behind-the-wheel instruction. Mr. Yost

281. Programs in Safety Education. I, II, S. 2 hr. PR: Consent of instructor. Materials and methods in total school program. Organization and administration of instruction in safe living in school, home, travel, industry, physical education, athletics and recreation. Miss Griffin

THE STAFF

PART III

Staff members whose names are followed by an asterisk are employed in cooperation with the United States Department of Agriculture.

ALBERT SALISBURY ABEL, A.B., J.D., LL.M., J.S.D., *Professor of Law* (1946), 1940. (Resigned September 1, 1955.)

RICHARD ATKINS ACKERMAN, B.S., M.S., *Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman, Agricultural Experiment Station* (1946), 1928.

ROBERT EVANS ADAMS, B.S., PH.D., *Assistant Professor of Plant Pathology; Assistant Plant Pathologist, Agricultural Experiment Station* (1953).

D. C. ALDERMAN, PH.D., *Associate Horticulturist, University Experiment Farm* (P.O. Kearneysville) (1952).

BERTHA HAWLEY ALLEN, A.B., *Social Director, (Retired)* (1945), 1944.

HOWARD BUSHNELL ALLEN, B.S., M.S., PH.D., *Professor of Education* (1932), 1920.

LILLIAN ALLEN, M.A., *Instructor in English, (Retired)* (1946).

CHARLES HENRY AMBLER, PH.D., *Professor Emeritus of History* (1947), 1917.

NELLIE PERREL AMMONS, A.B., M.A., PH.D., *Professor of Biology* (1953), 1920.

MALTHON MILTON ANAPOL, B.S., M.A., *Instructor in Speech* (1952), 1950. (Resigned May 31, 1955).

CHARLES C. ANDERSON,* B.S., M.S., *Administrative Assistant and Lecturer, Agricultural Extension Service* (1946), 1914.

EVELYN PEARL ANDERSON, B.A., M.A., *Assistant Professor of Speech* (1949), 1947. (Resigned September 1, 1955).

GERALD CLIFTON ANDERSON, B.S., M.S., PH.D., *Professor of Animal Husbandry; Animal Husbandman, Agricultural Experiment Station* (1950).

CHESTER A. ARENTS, B.S.E.E., M.S.M.E., M.E., *Dean, College of Engineering* (1955).

WATER WARDLAW ARMENTROUT, PH.D., *Professor and Head of Agricultural Economics and Rural Sociology; Agricultural Economist, Agricultural Experiment Station* (1936), 1924

EDNA ARNOLD, M.A., *Dean Emeritus of Women* (1955), 1935.

ROBERT RUSSELL ASHBURN, A.B., M.A., *Professor and Head of Romance Languages* (1954), 1925.

RICHARD ASPINALL, D.B., PH.D., *Director (Retired) of Student Affairs and University Extension* (1948), 1930.

PAUL ALEXANDER ATKINS, B.S.J., M.A., *Instructor in Journalism* (1953).

JO MATHER AULL, *Diploma from Cooper Union, Instructor (part time) in Art* (1945).

ANDREW KOLB AULT, B.S., M.ED., *Instructor in Education and Teacher of Industrial Arts, University High School* (1952).

GLADYS RABER AYERSMAN, B.S.H.E., *Instructor in Home Economics* (1954), 1943.

MORTON BACKER, B.B.A., C.P.A , *Associate Professor of Accounting* (1947).

CHARLES H. BAER, B.SC., M.SC., *Instructor in Biology* (1948).

JOE P. BAIL, B.S., M.S., *Assistant Professor of Agricultural Education* (1951).

WILFRED HARMON BAKER, B.S.C.E., M.S.C.E., *Professor of Civil Engineering* (1955), 1941.

ROBERT DODGE BALDWIN, A.B., A.M., PH.D., *Professor of Educational Administration* (1933), 1931.

NELLIE ROZELLA BALIKER, A.B., M.A., *Instructor, University Laboratory Elementary School* (1944).

CARROLL RAYBOURNE BALL, B.A., M.S., *Instructor in Anatomy* (1951).

JOHN DIXON BANE, B.S., AG.E., *Instructor in Agricultural Engineering* (1955).

DONNA JEAN BARICH, *Laboratory Technician, Medical Bacteriology* (1955).

HORACE LESLIE BARNETT, A.B., M.S., PH.D., *Professor of Mycology; Mycologist, Agricultural Experiment Station* (1948), 1945.

WILLIAM QUENTIN BARNETTE, B.S., M.A., *Instructor in Physical Education, Freshman Basketball Coach, Freshman Football Coach* (1950).

WILLIAM DERRICK BARNS, A.B., M.A., PH.D., *Associate Professor of History* (1947), 1940.

ROBERT ALFRED BARRON, A.B., M.A., *Instructor in Mathematics* (1955).

ELIZABETH ANN BARTHOLOMEW, M.S., *Herbarium Assistant in Biology* (1941), 1938.

Alice Lee Googe Bauer, A.B., B.S. in L.S., *Chief Technical Processes Librarian* (1954).
Newton Moore Baughman, B.S., M.S., *Assistant Professor of Agronomy; Assistant Agronomist, Agricultural Experiment Station* (1953), 1949.
Thomas Bauserman, B.S., M.S., *Instructor in Mathematics* (1947. (Resigned September 1, 1955).
Everett Lawrence Baxter, B.A., *Captain, Associate Professor of Military Science and Tactics* (1955).
Mary Catherine Bayles, A.B., A.M., *Assistant Registrar* (1946), 1924.
Henry Foy Beck, B.S., *Assistant Professor of Air Science and Tactics* (1953).
John Francis Lockett Bell, B.S.F., *Assistant Forester, (Island Creek Experimental Forest), Agricultural Experiment Station* (1953).
Patricia Ann Bell, R.N., *Nurse, Infirmary* (1955).
Waldo E. Bell,* B.S., *Agricultural Engineer, Agricultural Extension Service* (1953), 1945.
Boris Constant Belpuliti, B.S.P.E., M.S.P.E., *Director of Mountainlair* (1953).
Septimiu Ionel Benchea, A.B., *Captain, Assistant Professor of Air Science* (1955).
Glenn D. Bengtson, B.S., *Assistant Editor, Agricultural Experiment Station* (1953).
Herald D. Bennett, Ph.D., *Associate Professor of Biology* (1955), 1948.
Jonathan McCauley Bennett, C.A.A., *Flight Examiner,* C.A.A. *Commercial Pilot Rating,* C.A.A. *Certified Airplane and Engine Mechanic, Flight Examiner, Aeronautical Engineering* (1951).
Donald Guy Benoit, B.S., *Captain, Assistant Professor of Air Science* (1955).
Dorothy Jean Benson, B.S.H.E., M.S.H.E., *Dietitian, Men's Dining Hall* (1953).
Gordon Alger Bergy, B.S., M.S., Ph.C., *Professor of Pharmacy* (1921), 1916.
Howard Philip Berthy,* B.S.F., *Extension Forester, Agricultural Extension Service* (1952), 1950.
Charity White Beto, M.S., *Assistant Professor of Physical Education* (1949), 1946.
Donald John Bettinger, B.S., M.S., *Assistant Professor of Chemistry* (1954).
Bond Lose Bible, B.S., M.S., *Instructor in Education and Teacher of Vocational Agriculture, University High School* (1947).
Ralph Craddock Bierer, *Instructor in Mining Extension* (1952).
Robert Lee Birch, B.S., M.S., *Instructor in Zoology* (1948). (Resigned September 1, 1955).
C. Franklin Bishop,* B.A., M.S., Ph.D., *Plant Pathologist and Entomologist, Agricultural Extension Service* (1949), 1942.
Carter Richard Bishop, M.A., Ph.D., *Professor of English* (1952), 1929.
Donald Dwight Bishop, B.S., *Forest Superintendent* (1955).
May Carter Blackstock, M.A., *Social Director, Woman's Hall* (1950). (Resigned May 31, 1955).
James Karl Bletner, B.S. Agr., M.S., *Assistant Professor of Poultry Husbandry; Assistant Poultry Husbandman, Agricultural Experiment Station* (1946), 1935. (Resigned September 30, 1955).
Ruth N. Blodgett, A.B., B.S., *Documents Librarian* (1951), 1932.
Robert Stuart Boal,* B.S., M.S., *Economist, Agricultural Extension Service* (1951), 1943.
Sallie Shrewsbury Board, M.A., *Instructor in English* (1945).
Anna Mildred Boggs,* A.B., *Associate State Leader, Home Demonstration Work, Agricultural Extension Service* (1951), 1927.
Ira Brooks Boggs,* *State Boys Club Agent, Agricultural Extension Service* (1933), 1926. (Deceased October 28, 1955).
Verlon L. Bolyard, B.S.Agr., *Instructor in Agronomy; Assistant in Agronomy, Agricultural Experiment Station* (1953).
Donovan Hiner Bond, B.S.J., M.A., *Assistant Professor of Journalism* (1949), 1946.
Irving Dean Bonney, B.A., *Senior Catalog Librarian* (1954).
William Alfred Bonsall, B.S., M.S., *Instructor in Physical Education* (1950).
Clair L. Book, B.S., *Captain, Assistant Professor of Military Science and Tactics* (1954).
George Paul Boomsliter, M.S.C.E., *Professor Emeritus of Mechanics; Engineer, Engineering Experiment Station* (1949), 1920.
Kenneth Ray Boord,* *Associate Editor, Agricultural Extension Service* (1953), 1943.
Winifred M. Booth, B.S.Ed., M.A., *Assistant to Dean, College of Education* (1948), 1930.
Jack Boswell, B.S., *Major, Associate Professor of Military Science and Tactics* (1953).
Jennie Boughner, A.B., *Extension Assistant, Library* (1946), 1915.
Herman M. Bowers,* B.S.Agr., *Assistant Director, Agricultural Extension Service* (1951), 1929.

Harold Watt Bowling, T/Sgt, *Administrative Assistant, Air Science* (1953).
Betty Boyd, A.B., *Dean of Women* (1955), 1948.
Sam Boyd, Jr., B.D.A., M.F.A., *Associate Professor of Speech* (1952), 1943.
John Fred Brackmann, Jr., A.B., M.A., Ph.D., *Instructor in Psychology* (1953).
Leslie Emil Bradley, A.B., *Instructor in Mining Extension* (1945).
Robert Gordon Brake, B.S.M.E., *Instructor in Mechanical Engineering* (1954), (Resigned September 1, 1955).
James Paul Brawner, A.B., A.M., Ph.D., *Professor and Acting Head of English* (1952), 1935.
George H. Breiding, B.S.Agr., *Naturalist, Agricultural Extension Service, Oglebay Park,* Wheeling, W.Va. (1950).
Thomas John Brennan, B.S., M.S., Ed.D., *Assistant Professor of Education* (1953), 1952.
Vito Joseph Brenni, A.B., M.A., M.S., *Chief Reference Librarian* (1953), 1951.
Anna Brochick, A.B., M.A., *Instructor in Education and Teacher of Core Curriculum, University High School* (1938).
Maurice Graham Brooks, A.B., M.S., *Professor of Wildlife Management; Forester, Agricultural Experiment Station* (1947), 1923.
Christopher George Brouzas, A.B., A.B. in Ed., A.M., Ph.D., *Professor and Head of Classics* (1935), 1926.
Clifford Woodrow Brown, B.S., M.A., *Associate Professor of Music and Education* (1953), 1942.
Londo Henderson Brown, A.B., LL.B., LL.M., *Professor of Law* (1955), 1950.
Robert Nathan Brown, A.B., *Assistant Professor of Physical Education, Director of Intercollegiate Athletics* (1954), 1950.
Sara Ann Brown, B.S., M.S., Ph.D., *Professor of Home Economics* (1955), 1946.
David Royal Browning, M.A., *Assistant Agronomist in Charge, Ohio Valley Substation* (P.O. Pt. Pleasant), *Agricultural Experiment Station* (1947), 1941.
Arthur Bruckner, II, B.I.E., *Instructor in Industrial Engineering* (1955).
Kenneth Pierpont Brundage, B.S., M.S., *Management Specialist, Agricultural Extension Service* (1954).
James Oliver Buchanan, B.A., M.S., Ph.D., *Assistant Professor of Physics* (1948).
Emil Budway, M/Sgt., *Supply, Military Science and Tactics* (1955).
Jerry Cameron Burchinal, B.S.C.E., M.S.C.E., *Assistant Professor of Civil Engineering* (1950), 1946.
Othmar Joseph Burger, B.S., M.S., Ph.D., *Associate Professor of Agronomy; Associate Agronomist, Agricultural Experiment Station* (1953), 1950.
Robert Barker Burrows, A.B., M.A., *Assistant Professor of Speech* (1948).
Mary Ann Busch, B.S., *Assistant State Youth Leader, Agricultural Extension Service* (1955), 1951.
Mary Catherine Buswell, B.A., M.A., *Instructor in English* (1948), 1947.
Charles Edward Butler, A.B., B.S. in L.S., M.S. in L.S., *Librarian* (1949).
Russell Clarke Butler, B.S.Agr., M.S., Ph.D., *Associate Professor and Acting Head of Agricultural Education* (1955), 1944
Jack Burns Byers, B.S.F., *Assistant Professor of Forest Utilization; Assistant Forester, Agricultural Experiment Station* (1946), 1940. (Resigned May 31, 1955).
James Morton Callahan, Ph.D., *Professor Emeritus of History and Political Science* (1940), 1902.
Margaret Bess Campbell, B.S., *Tissue Technician in Pathology* (1954). (Resigned September 1, 1955).
Thomas Corwith Campbell, A.B., M.A., Ph.D., *Associate Professor of Economics; Assistant Dean, College of Commerce* (1948).
Charles M. Canby, A.B., M.S., *Instructor in Bacteriology* (1951), 1949. (Resigned May 31, 1955.)
William John Carl, *Instructor Emeritus in Foundry Practices and Pipe Fitting* (1945), 1920.
George A. Carleton, BCE, *Major, Associate Professor of Military Science and Tactics* (1955).
Leo Carlin, A.B., LL.B., *Professor Emeritus of Law* (1955), 1916.
Lorna Doone Carlin, A.B., M S., *Instructor in Mathematics* (1955).
Frank Anthony Carone, B.A., M.D., *Physician* (*part time*) *Health Service and Instructor* (*part time*) *in Pathology* (1955).
James Franklin Carruth, B.S., M.S., Ph.D., *Assistant Professor of Psychology* (1953).
Maria Hiliard Cartledge, A.B., *Technician in Plant Pathology* (1952).

John Caruso, A.B., M.A., Ph.D., *Assistant Professor of History, University Extension Service* (1950).

Kenneth Llewellyn Carvell, B.A., M.F., D.F., *Assistant Professor of Silviculture; Assistant Forester, Agricultural Experiment Station* (1953).

Carl Henry Cather, B.S.M.E., M.S.M.E., *Professor and Head of Mechanics; Engineer, Mechanics, Engineering Experiment Station* (1948), 1916.

Harold Malcolm Cather, B.S.M.E., M.S.M.E., *Professor and Head of Mechanical Engineering; Mechanical Engineer, Engineering Experiment Station* (1945), 1919.

Simon B. Chandler, A.B., A.M., M.D., *Professor and Head of Anatomy* (1935).

Lillie Louise Chapman, A.B., M.A., *Assistant Nutritionist, Agricultural Experiment Station* (1953), 1948. (Resigned July 1, 1955).

Louis Watson Chappell, A.B., A.M., *Associate Professor of English, Retired* (1952), 1923.

William Henry Childs, B.S., M.S., Ph.D., *Professor of Horticulture; Horticulturist, Agricultural Experiment Station* (1953), 1931.

Oliver Perry Chitwood, Ph.D., LL.D., *Professor Emeritus of History* (1946), 1907.

Edna Bowlin Christy, M.Litt, B.S. in N.Ed., *Lecturer (part time) in Nursing Education,* 1955.

Friend Ebenezer Clark, B.S., Ph.D., *Professor Emeritus of Chemistry* (1947), 1902.

Jere Walton Clark, B.B.A., M.A., *Assistant Professor of Economics* (1954), 1952. (Resigned September 1, 1955).

Norman Halton Clark, B.A., *Captain,* USAF, *Assistant Professor of Air Science* (1954).

Thomas Baird Clark, B.S.A., M.S., *Associate Professor of Poultry Husbandry; Associate Poultry Husbandman, Agricultural Experiment Station* (1943), 1927.

James Harris Clarke, B.S.Agr., M.S.Agr., *Associate Professor of Agricultural Economics; Associate Agricultural Economist, Agricultural Experiment Station* (1947), 1939.

John D. Clarkson, B.F.A., M.A., *Assistant Professor of Art* (1951), 1948.

Martin Theodore Cobin, B.F.A., M.A., Ph.D., *Assistant Professor of Speech* (1947). (Resigned September 1, 1955).

B. Joan Cochran, B.S., *Social Director of Mountainlair* (1953). (Resigned June 30, 1955).

Charles Nelson Cochran, A.B., M.S., *Instructor in Mathematics* (1951).

Mary Edith Coddington, A.B., *Assistant in Agricultural Economics* (1955).

Eloise Snowden Cofer,* A.B., M.S., *Specialist in Foods and Nutrition, Agricultural Extension Service* (1942). (Resigned September 15, 1955).

Norma Coffindaffer, R.N., *Nurse, Infirmary* (1953). (Resigned September 1, 1955).

Margaret Buchanan Cole, A.B., Ph.D., *Associate Professor Emeritus of Mathematics* (1955), 1939.

George Henry Colebank, A.B., M.A,. *Associate Professor Emeritus of Education* (1950), 1928.

Raymond W. Coleman, B.B.A., M.B.A., Ph.D., *Dean, College of Commerce, Professor of Economics and Management; Director of the Bureau of Business Research* (1952), 1948.

Armand Rene Collett, A.B., Ph.D., *Dean, College of Arts and Sciences; Professor of Chemistry* (1951), 1924.

Henry D'Alton Collins, B.S., LL.M., LL.B., *Associate Professor (part time) of Law* (1950).

Clyde Lemuel Colson, A.B., LL.B., S.J.D., *Professor of Law* (1938), 1935.

Robert Cameron Colwell, A.B., M.A., Ph.D., D.Sc., *Professor Emeritus of Physics* (1954), 1918.

Frank Girard Comerford, B.S., *Instructor in Engineering, University Extension* (1953).

Joe W. Compton, B.S., *Professor of Air Science* (1953). (Deceased March 27, 1955.)

Elaine Cook, B.A., M.S., *Instructor in Mathematics* (1955).

Kermit A. Cook, A.B., A.M., Ph.D., *Associate Professor of Education and Director of Student Teaching* (1947), 1935. (On leave August 1, 1954 to August 31, 1956).

Ruth Elizabeth Cook, B.S., M.S., *Instructor in Education and Teacher of Home Economics, University High School* (1951).

Mullen Ogle Coover, A.B., M.S., Ph.D., *Assistant Professor of Biochemistry* (1950). (Resigned May 31, 1955).

Lucy May Coplin, A.M., *Instructor Emeritus in Education* (1948), 1925.

Walter Lee Coplin, Mus.B., Mus.M., *Assistant Professor of Music* (1952), 1947.

Earl Lemley Core, Ph.D., *Professor and Head of Biology* (1948), 1928.

Earl Eugene Corum, B.S., M.S., *End Coach, Football and Instructor in Physical Education* (1950).
William Raymond Coulter, A.B., M.A., *Instructor in English* (1955).
Hazel Ruth Coutts, B.A., M.A., *Instructor in Secretarial Studies* (1943).
Russell Joseph Crane, B.S. in Educ., M.S. in Educ., *Line Coach, Football; Instructor in Physical Education* (1952).
Kenneth Craven, A.B., M.A., *Instructor in English* (1954).
Benjamin Franklin Creech,* B.S.Agr., *Animal Husbandman, Agricultural Extension Service* (1940), 1917.
David R. Creel, *Photographer, Agricultural Experiment Station; Assistant Editor, Agricultural Extension Service* (1947).
Katharine Ann Creel, A.B., B.S.L.S., *Circulation Assistant, Library* (1954), 1951. (Resigned May 31, 1955).
John Reginald Cresswell, B.A., Ph.D., *Arabic Studies Certificate, Professor of Philosophy* (1949), 1929.
Stephen Fuller Crocker, A.B., A.M., *Professor of English; Chairman of Integrated Studies* (1948), 1931.
Eugene Arthur Croenne, M/Sgt., *Instructor in Military Science and Tactics* (1955).
Edwin William Crooks, Jr., B.S., M.A., M.B.A., *Assistant Professor of Marketing* (1954).
Aureal Theophilus Cross, B.A., M.A., Ph.D., *Associate Professor of Geology (part time)* (1952), 1949.
Orrin Hartshorn Cross, A.B., M.S., Ph.D., *Assistant Professor of Psychology* (1953), 1951.
Whitney Rogers Cross, B.A., M.A., Ph.D., *Assistant Professor of History* (1949). (Deceased September 22, 1955).
P. Stephen Cudzilo, B.S., M.A., *Instructor in Education and Teacher of Commerce, University High School* (1952).
Allen B. Cunningham, A.B., M.S., Ph.D., *Associate Professor of Mathematics* (1952), 1935.
Cornelius Jett Cunningham, B.S.Agr., *Associate Animal Husbandman in Charge of Reymann Memorial Experimental Farms* (P.O. Wardensville), *Agricultural Experiment Station* (1943).
Edward D. Curry, Jr., B.S., *Major, Associate Professor of Air Science* (1954).
Carroll Augustus Curtis, B.S., B.Ed., M.S.M.E., *Associate Professor of Mechanical Engineering* (1954). (Resigned September 1, 1955).
Quin Fischer Curtis, A.B., A.M., Ph.D., *Professor and Head of Philosophy and Psychology* (1949), 1941.
Andrew Jackson Dadisman, M.S., B.S.A., Ph.D., *Professor Emeritus of Economics* (1951), 1914.
Betty Ann Dailey, R.N., *Nurse, Health Center* (1953). (Resigned August 26, 1955).
Jesse LeRoy Dally, B.S., M.A., *Instructor in Geology* (1953), 1949.
Arleigh Lee Darby, A.M., Litt.D., *Professor Emeritus of Romance Languages* (1949), 1910.
Patricia Lee Daugherty, A.B., M.A., *Instructor in Biology* (1948).
Charles Lyndon Davis, SFC, *Instructor in Military Science and Tactics* (1954).
Hannibal Albert Davis, A.B., A.M., Ph.D., *Professor and Head of Mathematics* (1947), 1921.
Jack Mason Davis, B.S., B.S.E.E., *Instructor in Electrical Engineering* (1953).
James G. Davis, M/Sgt., *Instructor in Air Science and Tactics* (1951). (Resigned February 1, 1955).
Leonard Mc. Davis, A.B., M.A., *Instructor in Speech* (1954), 1951.
Mildred Jean Davis, A.B., M.S., *Instructor in Home Economics* (1952), 1951. (Resigned September 1, 1955).
Robert Leroy Davis, A.B., M.A., *Principal, University Laboratory Elementary School* (1948).
Roland Parker Davis, S.B. (C.E.), M.C.E., Ph.D., *Dean Emeritus, College of Engineering, Professor of Structural Engineering; Structural Engineer, Engineering Experiment Station* (1955), 1911.
Oreta Holbert Dawson, A.B., A.M., *Instructor in English* (1947), 1946.
Eugene Peyton Deatrick, Ph.D., *Mechanician, Chemistry* (1952), 1921. (Retired).
Robert Lee Decker, B.A., M.A., Ph.D., *Instructor in Psychology* (1955).
Charles Leroy Delaney, *Instructor in Machine Shop, Mechanical Engineering* (1950), 1946.

CURTIS EUGENE DELCHAMPS, B.S., *Instructor in Physical Science* (1952). (Resigned September 1, 1955).

RALPH WALTER DETRICK, M.S., *Instructor in Sociology* (1950). (Resigned July 15, 1955).

WALTER HOWARD DICKERSON, B.S.C.E., B.S., M.S., *Associate Professor of Agricultural Engineering; Associate Agricultural Engineer, Agricultural Experiment Station* (1953).

MONTELLE DIETRICH, B.S., M.S., *Assistant Professor of Home Economics* (1941), 1929.

GIDEON STANHOPE DODDS, B.A., M.A., PH.D., *Professor Emeritus of Histology and Embryology* (1951), 1918.

ROBERT TUCKER DONLEY, A.B., LL.B., *Professor of Law* (1947), 1929.

ANTHONY BERNARD DONOVAN, B.S., M.LITT., M.S. IN L.S., *Chief Audio-visual Aids Librarian* (1955), 1954.

CARL KESTER DORSEY, A.B., M.S., PH.D., *Professor of Entomology; Entomologist, Agricultural Experiment Station* (1952).

CARLETON PAUL DORSEY,* B.S.AGR., M.S.AGR., *State Club Leader, Agricultural Extension Service* (1952), 1927.

CATHERINE MCKELVEY DORSEY, B.A., M.A., *Instructor in Education and Teacher of Mathematics, University High School* (1948), 1943.

JOHN DOUGLAS, M.B.A., A.B., *Management Instructor, College of Commerce* (1955).

HAROLD A. DOVE, *Animal Caretaker, Medical* (1955).

DAVID WILLIAM DOWDELL, A.B., A.M., *Instructor in English* (1947), 1946.

JESSIE P. DOWLING, A.S., M.S.W., *Instructor in Social Work, University Extension (part time)* (1954). (Resigned June 1, 1955).

ELIZABETH E. DOWNEY, B.S. IN ED., B.S. IN L.S., *Chief Acquisition Librarian* (1955), 1949.

JOHN PHILIP DOWNING, JR., B.S., *Captain, Associate Professor of Military Science and Tactics* (1952). (Resigned September 1, 1955).

JAMES BENEDICT T. DOWNS, M.E., M.S., *Professor of Machine Design, Mechanical Engineering* (1948). (Resigned September 1, 1955).

ROBERT ALEXANDER DOWNS, JR., T/SGT., USAF., *Administrative Assistant, Air Science* (1954).

JOHN WILLIAM DRAPER, B.A., M.A., PH.D., *Professor of English* (1929).

EVERETT CHARLES DUBBE, B.S.E.E., *Assistant Professor of Electrical Engineering* (1949), 1947.

EDWIN DUDA, B.A., M.S., *Instructor in Mathematics* (1955).

R. FRANKLIN DUGAN, B.S.AGR., B.S.F., M.F., *Assistant Professor of Wildlife Management; Assistant Forester, Agricultural Experiment Station* (1943), 1942.

ROBERT STANDISH DUNBAR, JR., B.S.AGR., M.S., PH.D., *Associate Professor of Dairy Husbandry; Associate Dairy Husbandman, Agricultural Experiment Station* (1952).

C. R. DUNCAN, B.S.C.E., *Instructor in Civil Engineering* (1953).

RAY O. DUNCAN, LL.B., A.B., ED.M., ED.D., *Dean of the School of Physical Education and Athletics; Professor of Physical Education* (1952).

ROBERT BARCLAY DUSTMAN, PH.D., *Dean of the Graduate School* (1949), 1924.

KATHERINE CLAIRE DWYRE, A.B., B.S., *Chief Acquisition Librarian, Library* (1949), 1947. (Resigned January 31, 1955).

ANN CULLEY DYE, B.S., *Dietitian, Woman's Hall* (1937).

ARTHUR PINGREE DYE, B.S., M.S.AGR., *Assistant Professor of Horticulture; Assistant Horticulturist, Agricultural Experiment Station* (1940), 1923.

NEWMAN ALLEN DYER, A.B., B.S., M.D., *Lecturer (part time) Public Hygiene* (1955).

JASON CLARK EASTON, B.A., M.A., PH.D., *Professor of History* (1949), 1939.

JOY BROMBERG EASTON, B.S., M.S., *Instructor in Mathematics* (1955).

ROBERT HOWARD EDELE, B.S.E.M., *Petroleum Research Engineer, Engineering Experiment Station* (1952), 1950.

WILLIAM AUGUST EHRGOTT, B.S., M.D., *Instructor (part time) in Pathology* (1949).

DONALD WAYNE EICHER, A.B., M.S., *Instructor in Education and Teacher of Physical Education, University High School* (1946), 1943.

EUGENE RANDALL ELKINS, A.B., *Research Assistant, Bureau for Government Research* (1952).

EDWARD SUMNER ELLIOTT, A.B., M.S., PH.D., *Assistant Professor of Plant Pathology; Assistant Plant Pathologist, Agricultural Experiment Station* (1953).

Kendall Clark Elliott, B.S., *Assistant in Agricultural Engineering, Agricultural Experiment Station* (1954).

Helen Ellison, A.B., C.S.W., M.S.S.W., *Instructor in Social Work* (1954).

Joseph Clarence Emch,* B.S.Agr., M.S., *Associate Animal Husbandman, Agricultural Extension Service* (1949), 1947.

Roy E. Emerson, B.S., M.S., *Assistant Professor of Agricultural Engineering; Assistant Agricultural Engineer, Agricultural Experiment Station* (1946), 1940.

Dorothy Catherine Engle, A.B., M.A., *Teacher of English at University High School* (1955).

Clyde Neville English, B.S., M.S.M., *Associate Professor of Music* (1952), 1945.

Thomas Edson Ennis, A.B., M.A., Ph.D., *Professor of History* (1946), 1930.

Homer Clark Evans, B.S.Agr., M.S.Agr., *Assistant Agricultural Economist, Agricultural Experiment Station* (1949).

William Clifford Ewers, M/Sgt., *Instructor in Military Science and Tactics* (1952).

Harold Vincent Fairbanks, B.S., M.S., *Professor of Metallurgical Engineering; Metallurgical Engineer, Engineering Experiment Station* (1955), 1947.

Marilyn Markussen Fairbanks, B.S., *Instructor in Education* (1953), 1949.

Henry Wilford Fairchild, B.S., M.S., Ph.D., *Associate Professor of Agronomy; Associate Agronomist, Agricultural Experiment Station* (1953), 1951. (Resigned January 1, 1956).

Renate Johanna Farley, *Medical Technician, Biochemistry Laboratory Assistant* (1954).

George R. Farmer, LL.B., *Lecturer (part time) in Business Law* (1946).

Stanley Farr, B.S.Ch.E., M.S., *Instructor in Physics* (1947).

Marja Steadman Fear, M.A., *Associate Professor Emeritus of Speech* (1953), 1920.

Eston Kermit Feaster, M.A., Ed.D., *Dean, College of Education; Professor of Education* (1953), 1949.

George Andrew Federer, Jr., A.B., A.M., *Instructor in Education; Teacher of Physical Science, University High School* (1934), 1928.

James Ernest Fike, B.S., M.S., *Instructor in Dairy Manufacturing; Assistant in Dairy Husbandry, Agricultural Experiment Station* (1947). (Resigned November 15, 1955).

Elizabeth E. Fink, B.S., M.A., *Assistant Professor of Nursing Education, University Extension* (1952). (Resigned June 1, 1955).

Lincoln Ted Fish, B.S. in Ed., M.A. in Ed., Ed.D., *Assistant Professor of Elementary Education* (1951).

Francis Pierce Fisher, A.B., *Lecturer, School of Journalism* (1954).

Leo Fishman, B.A., M.A., Ph.D., *Professor of Economics and Finance* (1952), 1947.

Homer Milton Fizer, B.S., M.S., *Instructor in Education; Teacher of Physical Education and Coach, University High School* (1947), 1940.

Mildred Evalena Fizer,* A.B., *State Girls' Club Agent, Agricultural Extension Service* (1953), 1946.

Justine McCue Fogelsong, A.B., M.A., *Assistant in Agricultural Economics* (1954). (Resigned July 1, 1955).

Constance Mary Foley, B.A., M.A., *Instructor in Mathematics* (1955).

Joe Edward Ford, A.B., M.A., *Instructor in Speech* (1953).

O. Rex Ford, Ph.D., *Professor of Physics* (1943), 1925.

Philip Hastings Ford, B.A., M.A., Ph.D., *Instructor in English* (1953). (Resigned September 1, 1955).

Ruel Elton Foster, A.B., M.A., Ph.D., *Associate Professor of English* (1952), 1942.

Lawrence William Fox, B.A., M.A., *Instructor in Psychology* (1955).

Carl Maynard Frasure, B.A., M.A., Ph.D., *Professor and Head of Political Science; Director of Bureau for Government Research* (1953), 1927.

Emile George Frere, B.S., M.A., *Instructor in Romance Languages* (1949), 1947.

Ray Jerome Friant,* B.S., *Agronomist, Agricultural Extension Service* (1929), 1922.

Harry Marion Fridley, B.S., M.S., Ph.D., *Professor and Head of Geology* (1951), 1928.

Alderson F. Fry, B.S., M.A., B.L.S., *Librarian, Health Sciences Library* (1954).

Harold Herman Full, A.B., A.M., *Instructor in Education; Teacher of English, University High School* (1952), 1947 (Resigned June 1, 1955).

Thompson R. Fulton, A.B., A.M., *Professor and Head of Social Work* (1953), 1946.

Jack William Futrell, B.A., M.A., *Instructor in English* (1955).

Patrick Ward Gainer, M.A., Ph.D., *Associate Professor of English* (1950), 1946.

James Ronald Gainsford, B.S. in Ed., *Swimming Coach and Instructor in Physical Education* (1955).

Mannon Elihu Gallegly, Jr., B.S.A., M.S., Ph.D., *Associate Professor of Plant Pathology; Associate Plant Pathologist, Agricultural Experiment Station* (1955), 1949.
Alfred F. Galli, B.S.Ch.E., *Instructor in Chemical Engineering* (1946).
Sidney Longman Galpin, Ph.D., *Professor of Hydrology; Hydrologist, Agricultural Experiment Station* (1938), 1927.
Edwin Charles Gangloff, B.A., M.S., Ph.D., *Assistant Professor of Biochemistry* (1955).
Wayne William Garretson, M/Sgt., *Instructor in Military Science and Tactics* (1953). (Resigned September 1, 1955).
Verl Zane Garster, Jr., A.B., *Junior Circulation Librarian* (1955).
Frederick Linck Geiler, B.S., M.S., *Professor of Pharmacy* (1951), 1928.
Clara Fay George, B.S.Pharm., *Pharmacist, University Health Service* (1951).
Carson Gibb, B.A., M.A., *Instructor in English* (1954), (Resigned September 1, 1955).
Harold Allen Gibbard, B.A., M.A., Ph.D., *Professor and Head of Sociology* (1948).
John Arthur Gibson, Jr., B.S., Ph.D., *Professor of Chemistry* (1953), 1926.
James Jay Gigante, B.S., *Assistant Professor of Military Science and Tactics* (1954).
Douglas Graver Gilbert, B.S., *Colonel, Professor of Military Science and Tactics* (1953).
Mary Ann Gingrich, *Certificate, Social Director, Woman's Hall* (1955).
Russell Henderson Gist,* B.S.Agr., *State Agent, Agricultural Extension Service* (1933), 1924. (On leave).
Mary Jane Glasscock, B.M., M.M., *Instructor in Education and Teacher of Music, University High School* (1943).
James R. Glenn, B.S., M.A., in L.S., *Junior Reference Librarian, Library* (1953).
Joseph Clay Gluck, B.A., B.D., *Director of Student Affairs* (1948), 1943.
Helen Louise Ambler Godfrey, B.S., M.A., *Instructor in Mathematics* (1953), 1946.
William Howard Godfrey, A.B., M.A., *Instructor in Education and Teacher of Biology, University High School* (1950). (On Military Leave).
Ronald Eisen Good, A.B., A.M., Ph.D., *Assistant Professor of Education* (1954).
Elizabeth J. Goodall, M.A., *Associate Professor of History, University Extension* (1945).
Allen Wright Goodspeed, B.S., M.F., *Professor of Forest Management; Forester, Agricultural Experiment Station* (1949).
Edwin Gould, B.S.Agr., *Entomologist in Charge of University Experiment Farm* (P.O., Kearneysville), *Agricultural Experiment Station* (1946), 1929.
Robert John Graham, *Supply Specialist, USAF* (1954).
Thomas Davis Gray,* B.S.Hort., *Landscape Architect, Agricultural Extension Service* (1943), 1920.
Robert J. Greene, B.S., M.A., *Assistant Professor of Speech* (1955), 1951.
Lloyd Raymond Gribble, B.S., M.S., Ph.D., *Professor of Zoology; Assistant Dean, College of Arts and Sciences* (1954), 1929.
Grace Margaret Griffin, M.A., *Professor of Physical Education* (1944), 1923.
George Walter Grow, B.S.M.E., M.S., *Associate Professor Emeritus of Drawing and Machine Design* (1953), 1912.
John Behny Grumbein, B.S.M.E., M.M.E, *Professor Emeritus of Power Engineering* (1945), 1903
Robert Carl Gunton, B.A., M.A., Ph.D., *Assistant Professor of Physics* (1949).
Albert C. Gwynne, B.S., M.S., *Head Trainer, Intercollegiate Athletics; Instructor in Physical Education* (1948), 1933.
Mary E. Haberkorn, M.S., *Instructor in Physical Education* (1952). (Resigned September 1, 1955).
Cornelia Hadley, A.B., M.A., *Junior Acquisition Librarian* (1954). (Resigned September 24, 1955).
John Henry Hagan, Jr., A.B., M.A., *Instructor in English* (1954). (Resigned September 1,. 1955).
Mason Ellsworth Hale, Jr., B.S., M.A., Ph.D., *Assistant Professor of Biology* (1955).
Charles A. Haley, *Instructor in Military Science and Tactics* (1953).
Arthur A. Hall, B.S.M.E., *Professor Emeritus of Electrical Engineering* (1951), 1916.
George Arthur Hall, Jr., B.S., Ph.D., *Assistant Professor of Chemistry* (1950).
James Lester Hall, A.B., M.S., Ph.D., *Professor of Chemistry* (1955), 1946.
Lillian Bailey Hall, *Dietitian, Woman's Hall* (1952).
William L. Haltiwanger, B.S., M.S., Ph.D., *Assistant Professor of Agronomy; Assistant Agronomist, Agricultural Experiment Station* (1952).
James Francis Hamilton, B.S.M.E., M.M.E., *Assistant Professor of Mechanical Engineering* (1955).
Edwin W. Hanczaryk, A.B., M.A., Ph.D., *Assistant Professor of Economics* (1951).

Roscoe Elton Hanna, Jr., B.S., *Supervisor, Industrial Extension; Assistant Director, Fire Service Extension* (1949), 1944.

Harry Louis Hansen, B.S., *Assistant Professor of Entomology; Assistant Entomologist; Agricultural Experiment Station* (1954).

Clara Reed Hardesty, B.M,. *Social Director, Terrace Hall* (1952), 1945.

Thomas Porter Hardman, M.A., J.D., *Dean, College of Law; Professor of Law* (1931), 1913.

Charles Henry Hare, M/Sgt., *Sergeant Major, Military Science and Tactics* (1951).

John Barker Harley, B.S., M.D., *Assistant Professor of Pathology* (1955).

William Knox Harrell, B.S., M.S., Ph.D., *Assistant Professor of Bacteriology* (1955).

Stephen Harrick, A.B., M.A., *Assistant Professor of Physical Education; Head Coach of Baseball and Wrestling* (1947), 1924.

Burritt C. Harrington, Ed.D., *Associate Professor of Education, University Extension* (1947).

Stanley Robert Harris, A.B., M.S., *Assistant Registrar* (1953).

Thomas Luther Harris, Ph.D., *Professor Emeritus of Sociology* (1947), 1921. (Deceased May 27, 1955).

Helen Kellar Harrison, B.S., M.A., *Assistant Professor of Music* (1952).

Weldon Hart, B.S., M.Mus., Ph.D., *Director of the School of Music* (1949).

Charles Henry Hartley,* B.S.Agr., *State Club Leader (Retired), Agricultural Extension Service* (1933), 1914.

Ted Robert Hash,* B.S., *Poultryman, Agricultural Extension Service* (1947), 1937.

David B. Hathaway, B.A., B.S., *Instructor in Education and Teacher of Biology, University High School* (1950).

Patricia Ann Hathaway, B.L.S., *Research Assistant, Bacteriology, School of Medicine* (1954).

Archie Oscar Haughland, B.M.E., B.M., M.M., *Assistant Professor of Music* (1954), 1949.

Nilda M. Havner, *Medical Technician in Bacteriology, School of Medicine* (1954). (Resigned January 22, 1955).

Elliott Gordon Hawethorne, M/Sgt., *Instructor in Military Science and Tactics* (1953), 1952.

Fabry L. Hawk, *Medical Technician, X-Ray Technologist, University Health Service* (1935), 1933.

Maryelsie Hawkins, B.A., M.A., *Instructor in Mathematics* (1954).

Virginia Jean Marshall Hayhurst, B.S.P.E., M.S.P.E., *Instructor in Physical Education, University High School* (1947).

Joseph Lester Hayman, Ph.C., B.S.Pharm., M.S., *Dean, College of Pharmacy; Professor of Pharmacognosy* (1936), 1919.

Milton Tidd Heald, B.A., M.A., Ph.D., *Associate Professor of Geology* (1955), 1948.

Harold Gilman Hedrick, A.B., M.A., *Instructor in Bacteriology and Plant Pathology* (1955), 1953.

Gerald Heebink,* B.S., M.S., *Dairyman, Agricultural Extension Service* (1935). (Deceased February 10, 1956).

Walter Leo Heilbronner, A.B., M.A., Ph.D., *Instructor in German* (1953).

J. O. Heishman, D.V.S., *Associate Animal Pathologist, Reymann Memorial Farms, Agricultural Experiment Station* (1949). (P.O. Wardensville).

Edgar Frank Heiskell, Jr., A.B., B.S., M.D., *Assistant Physician (part time), University Health Service* (1951), 1948.

Kenneth Richard Hemstead, B.A., M.A., *Instructor in English* (1955).

Harry Oram Henderson, B.S., M.S., Ph.D., *Professor and Head of Dairy Husbandry; Dairy Husbandman; Agricultural Experiment Station* (1928), 1919.

James H. Henning, Ph.D., *Professor and Head of Speech* (1945).

George S. Henry, C.A.A., *Commercial Pilot Rating, Flight Supervisor* (1950), 1942.

Rene Arthur Henry, A.B., *Director of Publicity, Department of Intercollegiate Athletics* (1954).

Francisco Herrera y Sanchez, A.B., A.M,. *Assistant Professor of Romance Languages* (1950), 1946.

Donald Atwood Herring, B.S.Pharm., *Instructor in Pharmacology* (1948). (Resigned May 31, 1955).

Betty Spillman Hesen, A.B., M.A., *Teacher of Core, University High School* (1954), 1950. (Resigned June 1, 1955).

Wilda Downey Hess, A.B., *Circulation Assistant, Library* (1953). (Resigned February 1, 1955).
James Blake Hickman, B.S., M.S., Ph.D., *Assistant Professor of Chemistry* (1951), 1941.
John Lewis Hicks, Jr., A.B., A.M., *Instructor in English* (1949).
Cecil Blaine Highland, Jr., A.B., LL.B., *Associate Professor of Law (part time)* (1955), 1940.
Charles Wickline Hill, B.S.Agr., M.A., Ph.D., *Professor and Head of Agricultural Education; Professor of Education* (1951), 1937. (Resigned September 1, 1955).
Hubert Hill, B.S., M.S., *Professor Emeritus of Chemistry* (1950), 1911.
Lawrence Benjamin Hill, A.B., A.M., Ph.D., *Professor Emeritus of Education* (1947), 1918.
Evelyn Pratt Hitt, A.B., *Cataloguer, Library (Retired)* (1944), 1922.
Karl Franklin Hoback, B.S., M.S., *Instructor in Integrated Studies* (1955).
Milford L. Hobbs, M.D., *Professor and Head of Pathology and Clinical Pathology* (1947).
Charles Edward Hockenberry, B.S., M.S., *Assistant to the Director of Intercollegiate Athletics* (1952), 1947.
Willard Wellington Hodge, M.A., *Professor Emeritus of Chemical Engineering* (1945), 1921.
Arthur Newsome Hofstetter, A.B., M.A., Ed.D., *Assistant Professor of Education, University Extension* (1955).
Margaret Price Hoke, A.B., A.M., *Instructor in Integrated Studies* (1955).
Ruth Wheeler Holden, M.A., *Instructor in English* (1943).
Susan Montgomery Holden, A.B., M.A., *Instructor in English* (1946). (Deceased October 17, 1955).
Donald Ray Holland, B.S., *Instructor in Mechanics (part time)* (1954).
Frederick John Holter, A.B., M.A., Ph.D., *Professor of Physical Education* (1948).
Agnes B. Hovee, B.A., M.A., *Assistant Director of Residence Halls* (1950).
John Weston Howard, A.B., A.M., *Instructor in English* (1950).
Earl Hudelson, Ph.D., *Professor of Education* (1945), 1920.
Kathryn Huffman, A.B., M.S., *Assistant Chemist (part time), Engineering Experiment Station* (1944).
George Louis Humphrey, A.B., M.S., Ph.D., *Assistant Professor of Chemistry* (1952).
Gertrude Humphreys,* A.B., *State Leader, Home Demonstration Work, Agricultural Extension Service* (1928), 1918.
Harold Yewell Hunker, A.B., A.M., *Instructor in Speech* (1955).
Beatrice Hurst, M.A., *Associate Professor of Physical Education* (1951), 1928.
Joseph P. Huselton, B.S., M.S., Ph.D., *Assistant Professor of Chemistry* (1951). (Resigned July 1, 1954).
William Lewis Husk, B.S., *Teacher of Core, University High School* (1955).
Blanche Lucille Hutchinson, B.M., *Accompanist* (1954).
Donald Aubry Hutchinson, B.S., *Instructor in Dairy Husbandry; Assistant in Dairy Husbandry, Agricultural Experiment Station* (1954). (Resigned June 30, 1955).
John Justin Huth, *Administrative Assistant, Military Science and Tactics* (1954).
Willie Solomon Hutson, B.S., *Assistant Agricultural Economist, Agricultural Experiment Station* (1951).
Doris John Huzzey, B.A., M.A., *Instructor in English* (1955).
John Baskerville Hyde, B.S.Med.Sc., *Instructor in Anatomy* (1950).
Harold Marteney Hyre, B.S., M.S., *Associate Professor of Poultry Husbandry; Associate Poultry Husbandman, Agricultural Experiment Station* (1944), 1931.
Don Charles Iffland, B.S., M.S., Ph.D., *Associate Professor of Chemistry* (1953), 1931.
Robert Hallister Ingram, B.S.A., M.N.S., PhD., *Assistant Professor of Animal Husbandry; Assistant Animal Husbandman, Agricultural Experiment Station* (1953). (Resigned February 1, 1955).
Lawrence Joseph Intravaia, B.M.Ed., M.M.Ed., *Assistant Professor of Music, Band Director* (1952), 1950.
Thomas Stanley Isaack, M.B.A., B.B.S., *Associate Professor of Management, College of Commerce* (1955), 1951.
Mary Hale Jackson, *Social Director, Woman's Hall, Center* (1954).
Norman D. Jackson, B.S.F., *Instructor and Assistant in Forestry, Agricultural Experiment Station* (1953).
David Wood Jacobs, A.B., *Director, Bureau of Information; Alumni Secretary* (1938).
Vernon R. James, *Lecturer, Mechanical Composition, Journalism* (1954).

Frank McCune Jamison, Jr., B.S., *Commercial Pilot, Flight Instructor, Aeronautical Engineering* (1953).

Walter H. Jarecke, B.S., M.Ed., *Associate Professor of Education* (1952), 1948.

Peggy Pauline Jarrett, A.M., *Instructor in Education and Teacher of Core, University High School* (1953).

Howard Jeffrey, A.B., M.A., *Assistant Professor of Physical Education* (1952), 1949.

Dirk William Jellema, A.B., M.A., Ph.D., *Instructor in History* (1953). (Resigned June 1, 1955).

Eldon King Jerome, B.S., M.A., Ph.D., *Director, Speech and Hearing Clinic, Professor of Speech* (1955), 1950.

Carl Edward Johnson, B.A., B.S., M.D., *Instructor (part time) in Medicine* (1940).

David Dale Johnson, A.M., Litt.D., *Professor Emeritus of English* (1946), 1902. (Deceased May 12, 1954).

Glenn LaPorte Johnson, A.B., *Instructor in English* (1955).

Robert Lee Johnson, Jr., B.A., M.A., Ph.D., *Instructor in History* (1954).

John Hubert Johnston, A.B., A.M., *Instructor in English* (1954).

Edwin Channing Jones, B.S.E.E., M.S.E.E., *Professor and Head of Electrical Engineering, Electrical Engineer, Engineering Experiment Station* (1948), 1926.

Ernest Lewis Jones, A.B., M.A., *IBM Supervisor, Office of the Registrar* (1955).

Helen Sterrett Jones, B.S., *Instructor (part time) in Home Economics* (1948), 1926. (Resigned June 30, 1953).

Lloyd Everett Jones, *Instructor in Machine Shop and Welding Practices; Foreman of Shops* (1946), 1937.

Mary Rose Taylor Jones, B.S., M.S., *Instructor in Home Economics* (1954), 1941.

Paul Russell Jones, M.Sc., B.C.E., *Associate Professor of Ceramic Engineering; Ceramic Engineer, Engineering Experiment Station* (1951), 1947.

Warren Otey Jones, M/Sgt., *Instructor in Military Science and Tactics* (1955).

Walbert Waldemar Kaempfer, B.P.A., M.A., *Research Assistant, Bureau for Government Research* (1955).

Theodore John Kallsen, B.E., M.A., Ph.D., *Assistant Professor of Integrated Studies* (1949). (Resigned September 1, 1955).

James A. Kapnicky, B.S.Ch.E., M.S.Ch.E., Ph.D., *Assistant Professor of Chemical Engineering* (1954).

Truman Frederic Keefer, AB., A.M., *Instructor in English* (1955).

Benjamin Keen, A.B., M.A., Ph.D., *Associate Professor of History* (1946).

Everett Lee Keener, B.S.E.E., *Assistant Professor of Electrical Engineering* (1950), 1946. (Resigned September 1, 1955).

Louise Keener, B.A., *Comptroller* (1954), 1929.

Claude Ray Kemper,* B.S.Agr., M.S.Agr., *District Agent, Agricultural Extension Service* (1955), 1946.

Eddie Clifton Kennedy, A.B., M.A., D.Ed., *Associate Professor of Education* (1953).

James Leonard Kent, B.A., *Associate Professor of Air Science* (1953).

Leah McVicker Kerns, A.B., B.S., *Teacher of Social Studies, University High School* (1955).

Harold Neely Kerr, A.B., M.Litt., *Assistant Professor of Sociology* (1947), 1946.

Harold Edward Kidder, B.S., M.S., Ph.D., *Assistant Professor of Animal Husbandry; Assistant Animal Husbandman, Agricultural Experiment Station* (1954).

Bernadette Marie Kirby, A.A., *Technician, University Health Service* (1955).

Bacil Fleming Kirtley, A.B., M.A., Ph.D., *Instructor in English* (1955).

John Oliver Knapp,* B.S.Agr., *Director of the Agricultural Extension Service* (1933), 1917.

Ruth Elizabeth Knoch,* B.S., M.A., *Clothing Specialist, Agricultural Extension Service* (1946), 1935.

Christian Burdick Koch, B.S., M.S., *Assistant Professor of Forest Utilization; Assistant Forester, Agricultural Experiment Station* (1954).

Walter Allos Koehler, M.S., B.S.Ch.E., Ch.E., Ph.D., *Professor and Head of Chemical Engineering; Director, Engineering Experiment Station* (1952), 1924.

Melvin H. Kolbe,* B.S.Agr., M.S., *Assistant Horticulturist, Agricultural Extension Service* (1947). (Resigned July 1, 1955).

Bernice Smrek Kontak, A.B., M.A., *Instructor in Education and Teacher of Senior Activities, University High School* (1948), 1945. (Resigned June 1, 1955).

Reginald F. Krause, A.B., M.S., Ph.D., M.D., *Professor and Head of Biochemistry* (1951).

Helen Louise Kudla, R.N., *Nurse in the University Health Service* (1950).

Frederick Charles Kurtz, B.S., M.B.A., *Assistant Professor of Accounting* (1953). (Resigned September 1, 1955).
Margaret Cornelia Ladwig, A.B., Ed.M., Ph.D., *Placement Adviser* (1949).
Richard Willoughby Laird, B.S.E.M., M.S.E.M., *Associate Professor of Mining Engineering* (1953), 1947.
Bernice Leil Lambert, *Assistant Social Director, Terrace Hall* (1952).
Merlan M. Lambert, B.S., B.S.Ch.E., M.S.Ch.E., *Instructor (part time) in Mechanics* (1950), 1947. (Resigned June 30, 1955)
Oscar Doane Lambert, A.B., M.A., Ph.D., *Historical Records Specialist, Library* (1953), 1935.
Ruth Matthew Lambert, *Assistant to Social Director, Terrace Hall* (1954).
Robert Lee Lancaster, B.F.A., *Instructor in Art* (1954). (Resigned September 1, 1955.)
Harold Olaf Larson, B.S., M.S., Ph.D., *Assistant Professor of Chemistry* (1955).
Beatrice Brenneman Law, A.B., M.A., *Instructor in English* (1949).
John Joseph Lawless, Ph.D., M.D., *Director of the Student Health Service; Associate Professor of Medicine* (1944), 1935.
Claude H. Layman, D.D.S., *Lecturer (part time) in Social Work* (1949).
Charles Lester Lazzell, A.B., M.S., Ph.D., *Professor and Head of Chemistry* (1949). 1919.
Julian Gilbert Leach, Ph.D., *Professor and Head of Plant Pathology, Bacteriology and Entomology; Plant Pathologist, Agricultural Experiment Station* (1938).
Victor Lemke, B.A., M.A., Ph.D., *Professor and Head of German* (1955), 1939.
Jessie Fortney Lemley,* B.S.H.E., *Associate State Leader, Home Demonstration Work, Agricultural Extension Service* (1951), 1922.
Willis G. Lemley, A.B., *Histology Technician, Anatomy* (1953).
Nell Lanham Leonian, B.S.H.E., M.A., *Instructor in English* (1947), 1931.
Renrick Nelson Lett, SFC, *Supply Sergeant, Military Science and Tactics* (1952). (Resigned September 1, 1955).
Mortimer Levine, B.A., M.A., Ph.D., *Instructor in History* (1955).
Arthur Lewis, B.S., *Associate Professor of Physical Education; Head Football Coach* (1950).
Walter Richard Lewis, B.S., M.S., Ph.D., *Professor and Head of Agricultural Biochemistry; Agricultural Biochemist, Agricultural Experiment Station* (1951).
Bernard H. Light, B.S., M.S., Ph.D., *Associate Professor of Psychology* (1951). (Resigned September 1, 1955).
Kenneth Lilly, *Research Assistant, School of Mines and Engineering Experiment Station* (1945).
Virgil Greene Lilly, Ph.D., *Professor of Physiology; Physiologist, Agricultural Experiment Station* (1949), 1927.
Phyllis Jean Linger, R.N., *Nurse, University Health Service* (1955).
Maurice Garland Linton, B.S.C.E., *Instructor in Civil Engineering* (1955).
Delmas Valgene Lippard, B.B.A., *Associate Professor of Military Science and Tactics* (1955).
Edward Alexander Livesay, B.S., M.S., A.M., Sc.D., *Professor and Head of Animal Husbandry; Animal Husbandman, Agricultural Experiment Station* (1919).
Roland Elizabeth Logan, A.B., M.S., *Instructor in Physiology* (1953). (Resigned June 1, 1955).
J. Everett Long, A.B., A.M., *Registrar of the University and Chairman of the Committee on Admissions* (1945), 1929.
Alfred Delbert Longhouse, B.S., M.S., Ph.D., *Professor and Head of Agricultural Engineering; Agricultural Engineer, Agricultural Experiment Station* (1945), 1938.
Carl Otis Loomis, B.E., M.S., *Assistant Professor of Social Work* (1951).
Frank Edell Lorince, Jr., B.S., M.S., M.M., *Assistant Professor of Music* (1950).
Bethiolene Frances Love, B.S., M.S., *Instructor in Pathology* (1955).
Vernon Fred Lowenberg, M.S., A.B., *Instructor in Mathematics* (1953).
John Luchok, B.S.J., *University Editor; Editor, Agricultural Experiment Station* (1953), 1950.
John Charles Ludlum, B.S., M.S., Ph.D., *Associate Professor of Geology* (1950), 1946.
August Joseph Ludwig, Jr., *IBM Supervisor, Office of the Registrar* (1952), 1951. (Resigned July 1, 1955).
Marlyn Edward Lugar, A.B., LL.B., J.S.D., *Professor of Law* (1951), 1939.
Virginia G. Luikhart, B.S., *Circulation Assistant, Library* (1951). 1930.
David Janes Lyttle, M.A., M.F.A., *Instructor in English* (1955).
William Henry MacKenzie, *Instructor in Mining Extension* (1945).

Arthur Cook McBride, A.B., A.M., Docteur de l'Universite de Bordeaux, *Associate Professor of Romance Languages* (1950), 1926.
William Alfred McCauley, A.B., M.A., *Coordinator, Interdepartmental Training Program in Rehabilitation Counseling* (1955).
Alan Hartman McClain, B.E.M., *Research Engineer, Engineering Experiment Station* (1955).
Joseph Dwight McClung, B.S.E.M., B.S.E.E., *Assistant Professor of Mining Engineering* (1953), 1941.
Ernie Bevan McCue, A.B., M.A., *Director, University Extension* (1952), 1947.
Emma Williamson McCutcheon, *Assistant to Social Director, Terrace Hall* (1955).
Elizabeth A. McEnney, Mus.B., Mus.M., *Assistant Professor of Music* (1949).
Bernard R. McGregor, B.S.Ed., *Assistant Professor of Music* (1950), 1935.
Theodore Clinton McIlvaine, Ph.D., *Professor Emeritus of Agronomy; Agronomist Emeritus, Agricultural Experiment Station* (1947), 1918.
Gordon R. McKinney, A.B., M.S., Ph.D., *Assistant Professor of Pharmacology* (1953).
George Aiken McLaren, B.S., M.S., Ph.D., *Assistant Professor of Biochemistry; Assistant Biochemist, Agricultural Experiment Station* (1955).
William H. McMillion, B.S., *Auditor, Office of the Comptroller* (1952).
John William McNabb, B.S.C.E., M.S.C.E., *Assistant Professor of Mechanics* (1955).
James Clair McVay, *Captain, Assistant Professor of Air Science and Tactics* (1951). (Resigned August 18, 1953).
Sam Madia, B.S., M.A., *Instructor in Education, and Teacher of Arts and Crafts, University High School* (1955).
Jesse Willard Malcolm, B.S., M.S., *Assistant Forester, Agricultural Extension Service* (1954).
Larry Jack Malcolm, SFC, *Chief Administrative Clerk, Military Science and Tactics* (1955).
Joseph Mamelak, B.Sc, M.Sc., Ph.D., *Assistant Professor of Mathematics* (1953). (Resigned September 1, 1955).
Mavis Andree Mann, B.A., M.A., Ph.D., *Assistant Professor of Political Science* (1949), 1947.
Oliver B. Manning, B.M., M.M., *Assistant Professor of Music* (1950).
Warren Francis Manning, A.B., A.M., Ph.D., *Professor of Romance Languages; Foreign Student Adviser* (1952), 1928.
Martin M. Mansperger, A.B., M.A., *Professor of Education, University Extension* (1952).
Lon Thomas Marks, B.D., M.A., Ph.B., *Instructor in English* (1948), 1947.
John Markus, M/Sgt., *Supply Supervisor, Air Science* (1953).
Ray Stanley Marsh, B.S.Agr., A.M., *Professor and Head of Horticulture; Horticulturist, Agricultural Experiment Station* (1936).
Margaret Shonk Marshall, A.B., M.S., *Instructor in Mathematics* (1952), 1950. (Resigned September 1, 1955).
Glenn Fayette Martin, *Instructor in Machine Shop and Welding Practices, Mechanical Engineering* (1940).
Mason E. Marvel, B.S., M.S., *Instructor in Horticulture; Assistant in Horticulture, Agricultural Experiment Station* (1951).
Edward R. Mattson, B.S., M.S., *Assistant Professor of Horticulture; Assistant Horticulturist, Agricultural Experiment Station* (1954). (Resigned September 1, 1955).
George Ralph Maxwell, B.S., M.D., *Assistant Professor (part time) of Medicine* (1936), 1924.
Roy William Mayberry, Jr., B.B.A., M.A., *Instructor in Economics* (1953). (Resigned September 1, 1955).
Thomas Mayer, B.A., M.A., Ph.D., *Visiting Assistant Professor of Economics* (1953).
Marjorie Akers Mazur, A.B., B.S. in L.S., *Senior Catalogue Librarian* (1955).
Arnold Christian Miller, M/Sgt., *Instructor in Air Science* (1952).
Delmas Ferguson Miller, A.B., M.S., Ph.D., *Associate Professor of Education and Principal of University High School* (1950), 1949.
Webster Earl Miller, A.B., M.A., *Instructor in Chemistry* (1946).
H. William Millington, A.M., *Lecturer (part time) in Social Work* (1953).
William S. Minor, A.B., D.B., *Associate Professor of Philosophy* (1946).
Kathleen Mitchell, *Social Director, Woman's Hall* (1942), 1940.
Charles Mitrani, A.B., M.A., Ph.D., *Associate Professor of Romance Languages* (1931), 1921.

WILLIAM E. MOCKLER, M.A., PH.D., *Assistant Professor (part time) of English* (1955), 1938.
FRED A. MOLBY, PH.D., *Professor Emeritus of Physics* (1948), 1920.
ARCHIBALD W. MOORE, LT. COL., *Assistant Professor of Air Science* (1951). (Resigned October 31, 1955).
BYRON WAYNE MOORE,* B.S.AGR., *Associate Poultryman, Agricultural Extension Service* (1947).
DANE WOOD MOORE, JR., B.S., *Medical Bacteriologist* (1955).
SUSAN MAXWELL MOORE, A.B., *Instructor Emeritus of Piano and Sight Playing* (1943). 1903.
BEN MORGAN,* A.B., B.S.AGR., *Associate Animal Husbandman, Agricultural Extension Service* (1954), 1935.
DAVID ZACKQUILL MORGAN, A.B., B.S., M.D., *Assistant Professor of Pathology* (1953). (Resigned June 1, 1955).
JOSEPH L. MORRIS,* B.S., *District Agent, Agricultural Extension Service* (1954).
SAMUEL JOHN MORRIS, M.D., *Professor of Physical Education; Physician, University Health Service; Medical Advisor, Intercollegiate Athletics* (1935), 1912. (Retired June 30, 1955).
JOHN JOEL MOSS, B.S., M.S., PH.D., *Associate Professor of Home Economics; Associate Home Economist, Agricultural Experiment Station* (1953).
MILDRED IONA MOYERS, A.B., M.A., *Junior Circulation Librarian* (1955).
GERHARD O. W. MUELLER, A.B., J.D., LL.M., *Assistant Professor of Law* (1955).
BETH PALMER MUFFLY, B.S., M.S., *Assistant Professor of Home Economics* (1927).
FOSTER MULLENAX, BS.AGR., *Assistant Extension Editor, Agricultural Extension Service* (1953).
DONALD CHARLES MULLIN, A.B., A.M., *Instructor in Speech* (1955).
ROBERT FERGUSON MUNN, A.B., M.A., *Assistant Librarian and Public Service Librarian* (1953).
DAVID AUSTIN MUNRO, D.V.M., *Assistant Professor of Animal Pathology; Assistant Animal Pathologist, Agricultural Experiment Station* (1952).
CHESTER WILLIAM MUTH, B.S., PH.D., *Assistant Professor of Chemistry* (1949).
CLIFFORD A. MYERS, JR., B.S.F., M.F., *Assistant Professor of Forestry; Assistant Forester, Agricultural Experiment Station* (1947). (Resigned September 30, 1955).
GALEN SHEETS MYERS,* B.S., *District Agent, Agricultural Extension Service* (1952), 1935.
JUNE CORE MYERS,* B.S.H.E., *Assistant Editor, Agricultural Extension Service* (1955).
LEROY ORNER MYERS, B.A., M.A., *Assistant Professor of Geology* (1948).
MARY LEE NEAL, NURSE, *Infirmary* (1953).
OLIVER MEADER NEAL, JR., B.S., *Assistant Professor of Horticulture; Assistant Horticulturist, Agricultural Experiment Station* (1948), 1942.
CHARLES DAVID NEEL, A.B., M.A., *Instructor in Speech* (1955).
ELIZABETH B. NEEL, *Administrative Assistant, Library* (1949), 1936.
ROBERT HUDKINS NEFF, B.S., M.S., *Instructor in Education; Teacher (part time) of Social Studies, University High School* (1955).
ANNE LOUISE NELSON, B.A., *Social Director, Mountainlair* (1955).
NELL NESBITT, A.M., *Associate Professor Emeritus of Home Economics* (1946), 1923.
PAUL EMMETT NESSELROAD, B.S., M.S., *Assistant in Agricultural Economics* (1954).
JOSEPH NEWHOUSE, B.S., M.A., *Instructor in Economics* (1955).
HENRY WILLIAM NEWMAN, B.A., M.A., *Instructor in Integrated Studies* (1955).
MABEL M. NICHOLS, A.B., M.A., *Instructor in Education; Teacher of Core, University High School* (1953). (Resigned June 1, 1955).
WILDA H. NOEL, B.S.H.E., *Dietitian, Terrace Hall* (1954).
RUTH DOUGLAS NOER, B.S., M.S., *Professor and Head of Home Economics* (1938), 1925.
ROBERT RHAR NOLTE, A.B., M.A., *Instructor in Psychology* (1953). (Resigned September 1, 1955).
CHARLES NORMAN, PH.D., *Assistant Professor of Biology* (1953).
WILLIAM LAURUS NORTHERN,* B.S., *Assistant Dairyman, Agricultural Extension Service* (1951). (On leave September 17, 1955 to June 1, 1956).
DAVID W. NORTHUP, A.B., A.M., PH.D., *Professor and Head of Physiology* (1949), 1935.
JOHN E. NUTTER, B.S., *Technician in Bacteriology, Medical School* (1953). (Resigned June 30, 1955).
NORMAN NYBROTEN, B.ED., PH.D., *Professor of Agricultural Economics; Agricultural Economist, Agricultural Experiment Station* (1948).

Harvey Brown Oates, A.B., B.S., M.A., *Instructor in Education; Teacher of Core, University High School* (1955).

Carolyn Christine Ollom, B.S., M.S., *Instructor in Mathematics* (1953), 1951.

John Frederick Ollom, B.S., M.S. M.A., Ph.D., *Assistant Professor of Physics* (1951).

Norman Olaf Olson, D.V.M., *Professor of Animal Pathology; Animal Pathologist, Agricultural Experiment Station* (1948).

Robert Roy Olson, *Instructor in Military Science and Tactics* (1953).

James Remuel O'Neal, B.S.E.M., *Assistant Director, Mining Extension* (1953), 1951.

William Junior Ornick, A.B., *Psychometrist* (1955).

Edwin Orr, B.S.M.E., *Superintendent, Buildings and Grounds* (1953), 1949.

Clayton Roberts Orton, B.S., M.S., Sc.D., Ph.D., *Professor of Plant Pathology; Plant Pathologist, Agricultural Experiment Station* (1949), 1929. (Deceased June 16, 1955).

John Dennis O'Sullivan, B.S., M.S., *Instructor in Accounting* (1952).

C. Jeanette Oswald, B.S., M.A., *Associate Professor and Head of Nursing Education* (1951), 1949.

Mary Nadine Page, M.A., *Assistant Professor of English* (1946), 1925.

Jack Timberlake Painter, B.S.C.E., *Instructor in Civil Engineering* (1953), 1950. (Resigned September 1, 1955).

Eugene Robert Palowitch, B.S., M.S., *Assistant Professor of Mining Engineering* (1954).

Dickson Ward Parsons, A.B., M.S., Ph.D., *Professor Emeritus of Rural Organization* (1951), 1923.

Charles Edwin Patton, A.M., *Professor and Head of Art* (1951), 1939.

Armine Deane Paul, B.S., Ph.D., *Assistant Professor of Chemistry* (1955).

Helen Mary Pavlech, B.S., M.A., *Assistant in Bacteriology* (1954).

Joseph Ernest Payne, B.S., Col., *Professor of Air Science* (1955).

Leonard Marion Peairs, B.S.Agr., M.S., Ph.D., *Professor Emeritus of Entomology* (1952), 1911. (Deceased January 30, 1956).

Roger Waterman Pease, B.S., M.S., *Assistant Agricultural Economist, Agricultural Experiment Station* (1955), 1947.

Charles Franklin Peer, B.S.M.E., M.S.M.E., *Assistant Professor of Mechanical Engineering* (1950) 1947. (Resigned June 1, 1955).

Frank Peluso, B.S., M.A., *Instructor in Education, Assistant to Principal, University High School* (1952), 1950.

W. Clement Percival, B.S., M.S., Ph.D., *Professor and Head of Division of Forestry; Forester, Agricultural Experiment Station* (1939), 1934.

Virginia Taylor Perry, A.B., M.A., *Chief Circulation Librarian* (1953), 1946.

Jane Rhodes Pestun, B.M., M.M. in Piano, M.M., *Instructor in Music* (1945), 1942.

Iland Dee Peters, A.B., M.S., *Assistant Professor of Mathematics* (1947), 1941.

Mason Margus Peterson, B.S.E.E., *Associate Professor of Electrical Engineering* (1948).

George Edward Petrovay, *Instructor in Military Science and Tactics* (1953). (Resigned September 1, 1955).

Helen Purinton Pettigrew, B.A., M.A., Ph.D., *Associate Professor of English* (1955), 1921.

Betty Ruth Phillips, A.B., B.M., M.S., *Instructor in Speech* (1953).

George Richard Phillips, *Assistant Director, Bureau of Information* (1954).

Ross Alonzo Phillips, B.S.Agr., B.S.Eng'g., M.S.Agr. Eng'g., *Assistant Professor of Agricultural Engineering; Assistant Agricultural Engineer, Agricultural Experiment Station* (1955).

Byrd Lea Pickens, A.B., M.A., *Assistant Circulation Librarian (Retired)* (1945), 1930.

Justus C. Pickett, M.D., *Lecturer (part time) in Social Work* (1949).

Helen Lester Plants, B.S.C.E., M.S.C.E., *Instructor in Mechanics* (1954), 1947.

Berta Gertrud Plaut, B.A., B.S. in L.S., *Senior Catalog Librarian* (1953).

George Gordon Pohlman, B.S., M.S., Ph.D., *Professor and Head of Agronomy and Genetics; Agronomist, Agricultural Experiment Station* (1938), 1930.

Peter Popovich, A.B., M.S., *Instructor in Chemistry* (1946).

Ward Flowers Porter, Jr., A.B., M.A., Ph.D., *Assistant Professor of Rural Sociology; Assistant Rural Sociologist, Agricultural Experiment Station* (1954), 1947. (Resigned July 1, 1955).

David Wilson Porterfield, B.S.E.E., *Instructor in Electrical Engineering, College of Engineering* (1955). (Resigned June 1, 1955).

Ira Deward Porterfield, B.S., M.S., *Associate Professor of Dairy Husbandry; Associate Dairy Husbandman, Agricultural Experiment Station* (1951), 1946.

ELDON E. POSEY, B.S., M.A., PH.D., *Assistant Professor of Mathematics* (1954).
OLETA REED POST, B.S., M.A., *Instructor in Education, Teacher of English, University High School* (1953).
JAMES STANLEY POUNDSTONE, *Instructor in Mining Extension* (1954), 1924.
NETTIE WOODYARD PRATT, *Assistant to Social Director, Terrace Hall* (1952), 1948. (Resigned May 31, 1954).
NATHANIEL STONE PRESTON, A.B., M.A., *Instructor in Political Science* (1953). (Resigned June 1, 1955).
BLANCHE ELIZABETH PRICE, A.B., M.A., *Assistant Professor of Home Economics; Manager, University Cafeteria* (1945).
CLARENCE LEE PRICE, B.S., C.P.A., *Lecturer (part time) in Accounting* (1955).
CECIL BENJAMIN PRIDE, A.B., M.D., *Associate Professor (part time) of Surgery* (1942).
CLETIS GRADEN PRIDE, B.S.J., *Assistant Director, Bureau of Information* (1953).
MAYNARD PRIDE, A.B., M.D., *Instructor (part-time) in Surgery* (1949).
ROBERT CHATTERTON PULLING, B.S., *Director of Administration* (1954).
LEWIS MCCARROLL PURIFOY, JR., A.B., A.M., *Instructor in History* (1955).
BERTHA BROWNING PURINTON, A.B., A.M., *Assistant Registrar (Retired)* (1946), 1919.
ELMER W. PURYEAR, A.B., M.A., PH.D., *Assistant Professor of History* (1955), 1954.
JOHN JUNIOR PUSHKARSH, A.B., A.M., *Instructor in Russian* (1955).
HARLEY GORDON PYLES, B.S.M.E., *Instructor in Mechanical Engineering* (1948).
ROBERT EDWARD RANKIN, B.A., M.A., PH.D., *Instructor in Psychology* (1954).
DALE ALLEN RAY, B.S., M.S., PH.D., *Assistant Professor of Genetics; Assistant Geneticist, Agricultural Experiment Station* (1952).
ELIZABETH FROST REED, A.M., *Assistant Professor Emeritus of English* (1954), 1919.
JAMES CORNELIUS REED, *Inventory Control Superintendent* (1953), 1946.
PERLEY ISAAC REED, A.B., A.M., PH.D., *Director of the School of Journalism; Professor of Journalism* (1939), 1920.
STANLEY HUNTER REED, A.B., *Captain, Assistant Professor of Air Science* (1954).
ALBERT MOORE REESE, A.B., PH.D., *Professor Emeritus of Zoology* (1946), 1907.
FLORENCE K. REESE, A.B., B.S.LIBR.SERV., M.A., *Assistant Professor and Head of Library Science* (1949), 1935.
RICHARD BEVERLEY REICH, B.S. IN ED., M.S. IN L.S., *Chief Audio-visual Aids Librarian* (1953), 1952. (Resigned December 4, 1954).
JAMES TRAVIS REID, B.S.A.E., *Instructor in Agricultural Engineering; Assistant in Agricultural Engineering, Agricultural Experiment Station* (1951). (Resigned July 31, 1955).
WILLIAM HENRY REID, B.F., M.F., *Associate Professor of Forest Utilization; Associate Forester, Agricultural Experiment Station* (1951).
JANET ELIZABETH REMINGTON, B.M., *Instructor (part time) in Music* (1954).
FERN H. RENNEBOHM, B.S., M.S., *Instructor in Home Economics* (1953).
HARVEY NIXON REXROAD, B.S.E.E., M.S., *Instructor in Physics* (1947). (Resigned September 1, 1955).
CLARENCE NEWTON REYNOLDS, PH.D., *Professor Emeritus of Mathematics* (1951), 1921. (Deceased).
JO ANN DODDS RICHARDSON, B.S.H.E., *Executive Secretary, Y.W.C.A.*, (1953).
JOHN HARRISON RIETZ, D.V.M., M.S., *Professor Emeritus of Animal Pathology* (1948), 1927.
STANLEY GENE RIVES, B.S.E.D., M.S.E.D., *Instructor in Speech* (1955).
ELIZABETH ANN ROBERTS, B.S.H.E., M.S., *Assistant Professor of Home Economics* (1952).
EVAN OWEN ROBERTS, A.B., M.A., PH.D., *Professor of Economics and Marketing* (1953), 1939.
LOUISE BOGGESS ROBERTS, B.S., M.A., *Instructor in Education and Teacher of Home Economics, University High School* (1937), 1928.
WILLIAM HARVARD ROBERTS,* B.S.AGR., *District Agent, Agricultural Extension Service (Retired)*, (1954), 1919.
HELEN ELAINE ROBINSON, A.B., M.S. IN L.S., *Librarian, University High School* (1949), 1947.
BEN J. ROBINSON, D.D.S., D.SC., *Dean, School of Dentistry* (1953).
RUTH ELEANOR ROBINSON, A.B., A.M., *Manager, University Book Store* (1944), 1939.
IRA ERRETT RODGERS, A.B., *Associate Professor of Physical Education; Golf Coach* (1950), 1920.
CHARLES W. ROGERS, A.M., *Lecturer (part time) in Social Work* (1953).

KATE MEREDITH ROLLER, A.B., M.A., *Instructor Emeritus in Education and Teacher of Arts and Crafts, University High School* (1955), 1927.

THEODORE JOHN ROSS, A.B., A.M., *Instructor in English* (1952). (Resigned September 1, 1955).

WILLIAM ROBERT ROSS, A.B., M.A., *Assistant Professor of Political Science* (1948) 1938.

STANLEY ARTHUR RUDIN, B.A., PH.D., *Instructor in Psychology* (1955).

CHARLES MICHAEL RUNNER, *Stationary Engineer, Mechanical Engineering* (*Retired*), (1950), 1919.

ZELMA ANN TOOTHMAN SALGADO, A.B., *Junior Catalog Librarian* (1954).

MABEL K. SAMUEL, B.S., *Dietitian and Executive Housekeeper, Men's Residence Hall* (1946).

PATRICIA O'CONNER SANDERS, B.S., *Research Assistant, Biochemistry, School of Medicine* (1954), 1953. (Resigned June 30, 1955).

JACOB CHARLES SAPOSNEKOW, B.S., M.A., *Associate Professor of Sociology* (1941), 1924.

HAROLD C. SAWYERS, B.S., *Assistant Backfield Coach; Instructor in Physical Education* (1954). (Resigned September 10, 1955).

LEROY HALLOWELL SAXE, JR., B.S., A.M., PH.D., *Assistant Professor of Pharmacology* (1955).

GREEK SAYRE, A.B., M.A., *Assistant Professor of English* (1941), 1918.

GEORGE ETHERIDGE SCHAFFER, B.M., M.M., PH.D., *Assistant Professor of Music* (1954).

FREDERICK APPLETON SCHAUS, B.S., *Head Basketball Coach and Instructor in Physical Education* (1954).

JOHN GUSTAV SCHERLACHER, B.S., M.ED., *Associate Professor of Physical Education* (1947).

VINCENT PETER SCHIAVONI, B.B.A., *Major, Assistant Professor of Air Science* (1951). (Resigned September 1, 1955).

LUCILLE ANN SCHMIEDER, A.B., M.S., *Instructor in Biology* (1955).

OSCAR EDMUND SCHUBERT, B.S.AGR., M.S., PH.D., *Associate Professor of Horticulture; Associate Horticulturist, Agricultural Experiment Station* (1953), 1949.

CLARENCE K. SCHULTZ, A.B., M.A., PH.D., *Associate Professor of Education* (1949).

FRANK JOSEPH SCHWARTZ, B.S., M.S., PH.D., *Assistant Professor of Biology* (1955).

GRACE D. SCOTT, A.B., M.A., ED.D., *Associate Professor of Education* (1950).

RAYMER EGBERT SEAMAN, *Instructor Emeritus in Woodworking and Foundry Practice* (1945), 1912.

JOHN J. S. SEBASTIAN, D.SC., *Visiting Lecturer in Chemical Engineering* (1948).

CHARLES BORUM SEIBERT, B.S.E.E., M.S.E.E., *Professor of Electrical Engineering* (1951), 1934.

LEON ZEE SELTZER, PH.C., B.S.E., *Professor and Head of Aeronautical Engineering, Aeronautical Engineer, Engineering Experiment Station* (1949).

JOHN SEMON, A.B., M.S., *Associate Professor of Physical Education and Director of Intramural Sports for Men* (1955), 1943.

MARY ALICE SEMON, B.S., M.A., *Instructor in Education and Supervisor of Social Studies, University High School* (1948), 1938. (Resigned September 1, 1955).

HARRY SEROTKIN, A.B., M.S.S.A., *Lecturer* (*part time*) *in Social Work* (1953).

JAMES N. SHAFER, A.B., M.A., PHD., *Assistant Professor of Psychology* (1955), 1953.

RAYMOND EDWIN SHAFER, B.S.I.E., M.S.I.E., *Professor of Industrial Engineering* (1951), 1949.

HUBERT ADAMS SHAFFER, B.S., M.D., *Consulting Radiologist, University Health Service* (1949).

RUSSELL SPURGEON SHAHAN, JR., B.S., *Teacher in Instrumental Music, University High School* (1952).

HAROLD JOSEPH SHAMBERGER, A.B., M.P.A., *Research Associate, Bureau for Government Research* (1953), 1949. (Resigned July 1, 1955).

GEORGE SHARPE,* B.S.AGR., M.S., *Soil Conservationist, Agricultural Extension Service* (1944), 1930.

BERTHA L. SHAW,* *Assistant to Director, Agricultural Extension Service* (1945), 1921. (Deceased September 29, 1955).

THELMA SHAW, A.B., *Lecturer* (*part time*) *in Social Work* (1953).

DAMON CHARLES SHELTON, B.S.A., M.S., PH.D., *Associate Professor of Agricultural Biochemistry; Associate Biochemist, Agricultural Experiment Station* (1953).

CHARLES WILLIAM SHETLER, B.A., M.A., *Curator, West Virginia Collection* (1950).

JOHN EDWARD SHOCKEY, B.S., *Instructor in Physical Education; Backfield Football Coach* (1950).

Willa Mae Short, B.S., M.T., *Technician, Agricultural Biochemistry, Agricultural Experiment Station* (1954). (Resigned February 1, 1955).
Wilson Porter Shortridge, A.B., A.M., Ph.D., *Professor Emeritus of History* (1951), 1922.
Martin Whitcomb Shrewsbury, B.A., *Associate Professor of Military Science and Tactics* (1952).
Fred B. Silberstein, M.A., *Instructor in Sociology* (1955).
Charles S. Simmons, *Business Manager, Intercollegiate Athletics* (1947).
Pete Simonette, B.A., M.A., *Instructor in Romance Languages* (1949). (Resigned September 1, 1955).
Howard Perry Simons, B.A., M.Sc., Ph.D., *Professor of Chemical Engineering; Chemical Engineer, Engineering Experiment Station* (1947), 1939.
William Roy Simpson, B.S., M.S., *Instructor in Chemistry* (1952). (Resigned June 30, 1955).
Armand Edwards Singer, A.B., A.M., Ph.D., *Associate Professor of Romance Languages* (1955), 1940.
Leonard Marion Sizer, B.A., M.A., Ph.D., *Assistant Professor of Rural Sociology; Assistant Rural Sociologist, Agricultural Experiment Station* (1955).
Charles Prestun Skaggs, B.S., *Lecturer in Accounting* (1954).
John Madison Slack, B.S., M.S., Ph.D., *Professor and Head of Bacteriology and Public Hygiene* (1949), 1946.
Clark Kendall Sleeth, A.B., B.S., M.D., *Associate Professor of Medicine; Assistant Director, University Health Service* (1946), 1935.
Robert Dean Slonneger, B.S.M.E., M.S.M.E., *Associate Professor of Mechanical Engineering* (1955), 1954.
Genevieve Poland Smell, A.B., M.A., *Instructor in Biology* (1949), 1946.
Arthur Newell Smith, A.B., *Associate Professor of Physical Education; Coach of Track* (1931), 1924
Donald George Smith, B.A., *Instructor in English* (1953). (Resigned September 1, 1955).
Fred Manning Smith, A.B., B.A., M.A., Ph.D., *Professor Emeritus of English* (1951), 1927.
Gene Hope Smith, A.B., M.S., *Instructor in Zoology* (1948), 1946.
James Leroy Smith, B.S.F., M.F., B.S.A., Ph.D., *Assistant Professor of Forestry* (1954). (Resigned January 8, 1955).
Marion Judson Smith, B.S.E.E., M.S., *Associate Professor of Electrical Engineering* (1954).
Sara R. Smith, Ph.D., *Associate Professor of History* (1951), 1946.
Theodore Noss Smith, A.B., M.A., *Instructor in Speech* (1955).
Thurman Edwin Smotherman, A.B., M.Ed., Ed.D., *Assistant Professor of Education* (1954).
Grace Martin Snee, B.M., *Instructor Emeritus in Piano and Pipe Organ* (1945), 1898.
Gerald George Somers, B.A., M.A., Ph.D., *Associate Professor of Economics* (1949).
Sylvia Josephine Soupart, M.A., *Instructor Emreitus in Education* (1949), 1925.
Bernece McKean Spangler, A.B., M.A., *Instructor in English* (1948), 1947.
Robert Clifton Spangler, A.B., A.M., Ph.D., *Professor Emeritus of Botany* (1955), 1914.
Ralph Gordon Spears, B.S., M.D., *Assistant Professor of Bacteriology and Public Hygiene* (1953).
Henry Withers Speiden, M.S.C.E., *Professor and Head of Civil Engineering; Civil Engineer, Engineering Experiment Station* (1947), 1931.
Charles Billmyer Sperow, Jr., B.S., *Instructor in Agronomy; Assistant in Agronomy, Agricultural Experiment Station* (1953), 1952.
Claude Carl Spiker, A.B., M.A., Ph.D., *Professor Emeritus of Romance Languages* (1954), 1913.
Garold Ralph Spindler, B.S.E.M., E.M., *Director of the School of Mines; Professor of Mining Engineering; Mining Engineer, Engineering Experiment Station* (1948), 1934.
Robb Spaulding Spray, Ph.D., *Professor Emeritus of Bacteriology and Public Hygiene* (1946), 1921.
Elizabeth Mattingly Stalnaker, A.B., A.M., Ph.D., *Professor Emeritus of Psychology* (1953), 1925.
Frances Taylor Stamatiou, R.N., *Nurse, Infirmary* (1955).
Archie Lemuel Starkey, M.S., M.D., *Instructor (part time) in Medicine* (1949).

John Francis Stasny, B.A., M.A., *Instructor in English* (1955).
Madison Stathers, A.B., Ph.D., *Professor Emeritus of Romance Languages* (1948), 1906.
Walter Francis Staton, Jr., A.B., M.A., *Instructor in English* (1954). (Resigned September 1, 1955).
Robert Lee Steele, B.S., *Instructor in Dairy Husbandry* (1955).
Forrest Wilbur Stemple, A.B., M.Sc., Ph.D., *Professor Emeritus of Education* (1952), 1916.
Ruth Magdalene Stemple, B.S. in Ed., M.S. in L.S., *Senior Reference Librarian* (1955).
Meta Stephens, B.S., *Instructor in Integrated Studies* (1953).
Gwendolyn Jones Stewart, B.S., M.S., *Instructor in Bacteriology* (1953). (Resigned February 1, 1955).
Irvin Stewart, A.B., A.M., LL.B., Ph.D., LL.D., *President of the University; Professor of Political Science* (1954), 1946.
Joseph K. Stewart, Ph.D., *Professor of Mathematics* (1952), 1930.
John Clifford Stickney, B.S., M.S., Ph.D., *Associate Professor of Physiology* (1949).
Robert S. Stilwell, A.B., M.A., Ph.D., *Associate Professor of German* (1949), 1947.
Harry Everett Stone, A.M., *Secretary, Student Loans and Placement (Retired)* (1950), 1922.
Lowry McIlvaine Stoops, A.B., *Assistant Director, Intercollegiate Athletics* (1954). 1926.
John Milton Strait, M.E. in E.E., M.E., *Associate Professor of Mechanical Engineering* (1955).
Perry Daniel Strausbaugh, Ph.D., *Professor Emeritus of Botany* (1948), 1938.
Samilda Elizabeth Stump, B.S., *Junior Circulation Librarian* (1954), 1951. (Resigned December 31, 1954).
Albert Lee Sturm, A.B., A.M., Ph.D., *Professor of Political Science* (1951), 1946.
Festus Paul Summers, A.B., A.M., Ph.D., *Professor and Head of History* (1947), 1932.
William Robert Summers, Jr., B.S., M.A., *Assistant Professor of Journalism* (1952).
James Gerard Sweeney, A.B., A.M., *Instructor in English* (1955).
Herman David Sydenstricker, A.B., *Instructor in Mining Extension* (1947), 1941. (Resigned September 15, 1955).
H. Sinclair Tait, M.D.C.M., P.M.B., *Assistant Professor of Medicine (part time)* (1952).
W. B. Talbott, *Instructor in Mining Extension* (1927).
Joseph Paul Talerico, A.B., M.A., *Instructor in Education and Teacher of Social Studies, University High School* (1950), 1948.
Christy Morgan Taylor, A.B., *Instructor in English* (1952). (Resigned September 1, 1955).
Harley Ustus Taylor, Jr., A.B., M.A., *Instructor in German* (1951), 1949.
Leland Hart Taylor, B.Sc., M.Sc., Sc.D., *Professor of Zoology* (1939), 1922.
Samuel Thayiu, B.M., *Instructor (part time) in Music* (1952).
Bulan Talmadge Thomas, Jr., B.S., *Veterans Coordinator* (1953).
Charles Danser Thomas, Ph.D., *Professor and Acting Head of Physics* (1954), 1931.
Victor E. Thomas, M.A., B.A., *Instructor in Mathematics* (1953). (Resigned September 1, 1955).
James Howard Thompson, A.B., M.A., Ph.D., *Associate Professor of Economics; Assistant Director of the Bureau of Business Research* (1948).
Jean Lambert Thompson, B.A., *Instructor in Education; Teacher of Commerce, University High School* (1954). (Resigned June 1, 1955).
George E. Toben, M.S., *Associate Professor of Agricultural Economics; Associate in Farm Management, Agricultural Experiment Station* (1946).
Kenneth M. Todd, T/Sgt., *Administrative Assistant in Air Science* (1954).
Harry F. Toothman, Ph.D., *Associate Professor Emeritus of Education, University Extension, Athens, W.Va.* (1955).
Patrick Anthony Tork, A.B., M.S., *Professor of Physical Education; Director, Service Program for Men; Director of the Field House* (1953), 1943.
Ralph B. Tower, B.B.A., M.B.A., Ph.D., *Professor of Economics and Finance* (1941).
John H. Trotter, A.B., B.S., M.D., *Ophthalmological Consultant (part time) in Integrated Studies* (1950).
Rodney Philip True, A.B., Ph.D., *Professor of Plant Pathology; Plant Pathologist, Agricultural Experiment Station* (1955), 1949.
Earl Haven Tryon, B.S., M.S., Ph.D., *Professor of Silviculture; Silviculturist, Agricultural Experiment Station* (1952), 1945.
Richard Cabell Tuck, B.S., *Associate Professor of Military Science and Tactics* (1955)

ELDON BRYANT TUCKER, B.S., M.D., *Lecturer (part time) in Pharmacology (Anesthesiology)* (1937).

BIRD MARGARET TURNER, A.B., A.M., PH.D., *Professor Emeritus of Mathematics* (1947), 1923.

CATHARINE BAER TURNER, B.S. IN ED., *Assistant Dean of Women* (1955).

ANN MARIE UBINGER, B.F.A., B.S. IN ED., *Instructor in Art* (1955).

BENJAMIN HARRISON ULRICH, JR., B.S.A.E., M.S.A.E., *Associate Professor of Aeronautical Engineering; Associate Aeronautical Engineer, Engineering Experiment Station* (1951).

TERRELL MARTIN UPCHURCH, A.B., *Major, Assistant Professor of Air Science* (1955).

EDWARD UNDERHILL, B.A., *Captain, Assistant Professor of Military Science and Tactics* (1954). (Resigned August 31, 1954).

ORVAL LEE UTT, B.S., *Instructor in Electrical Engineering* (1953), 1951. (Resigned May 31, 1955).

ELLEN ZINK VANDERVORT, A.B., M.S., *Instructor in Biology* (1949), 1946.

AUDREY HOWARD VANLANDINGHAM, B.S.AGR., M.S., PH.D., *Assistant Dean, College of Agriculture, Forestry and Home Economics; Assistant Director, Agricultural Experiment Station* (1953), 1929.

EDWARD JERALD VAN LIERE, M.S., M.D., PH.D., LITT.D., *Dean of the School of Medicine; Professor of Physiology* (1937), 1921.

HARRY ROSS VARNEY, B.S., M.S., PH.D., *Dean of the College of Agriculture, Forestry, and Home Economics; Director, Agricultural Experiment Station* (1950).

COLLINS VEATCH, B.S., M.S., PH.D., *Associate Professor of Agronomy; Associate Agronomist, Agricultural Experiment Station* (1945).

CHARLES HENRY VEHSE, SC.B., M.S., PH.D., *Professor of Mathematics* (1947), 1929.

MARVIN LEWIS VEST, B.S., M.S., PH.D., *Professor of Mathematics* (1955), 1931.

ENOCH HOWARD VICKERS, A.M., *Professor Emeritus of Economics and Business Administration* (1938), 1890.

MICHAEL ANTHONY VIGGIANO, A.M., B.S., M.D., M.P.H., *Lecturer in Public Health (part time)* (1954). (Resigned September 1, 1955).

JAMES VIZAS, A.B., M.A., *Instructor in Integrated Studies* (1954), 1945. (Resigned January 6, 1955).

ORVILLE LESTER VOTH, A.B., A.M., *Assistant Biochemist, Agricultural Experiment Station* (1952). (Resigned July 31, 1955).

MAYME ELIZABETH WADDELL, B.S., M.A., *Director, Residence Halls* (1935), 1930.

CARL EUSTICE WADE, B.S., M.S., *Instructor in Economics* (1955).

REBECCA ESTRA WADE, A.B., M.A., A.L.M., *Assistant Professor of Romance Languages* (1955), 1945.

ESTHER PRUDEN WALCOTT, B.A., M.S.S., *Assistant Professor of Social Work* (1952).

CHARLES E. WALLS, *Laboratory Assistant and Mechanician in Chemical Engineering* (1938).

CHARLES HENRY WARNER, B.S.M.E., *Instructor in Mechanical Engineering* (1955).

GLADYS WASMUTH,* B.S.H.E., M.S., *Home Management Specialist—Housing, Agricultural Extension Service* (1949), 1935.

RICHARD HOWARD WASSON, B.A., M.A., *Instructor in English* (1955).

HOBART WATSON, *Instructor in Mining Extension, Oak Hill, W.Va.* (1925).

LEIGHTON GUILFORD WATSON,* A.B., *Extension Editor, Agricultural Extension Service* (1947), 1938.

DANIEL THOMAS WATTS, A.B., PH.D., *Professor and Head of Pharmacology* (1953).

CHARLES EDWARD WEAKLEY, JR., A.B., M.A., *Associate Agricultural Biochemist Emeritus, Agricultural Experiment Station* (1955), 1907.

GEORGE WILLIAM WEAVER, B.S.M.E., M.S.M.E., *Assistant Professor of Mechanics* (1951), 1948.

SAMUEL JOSEPHUS WEESE, B.S., M.S., *Associate Professor of Dairy Husbandry; Associate Dairy Husbandman, Agricultural Experiment Station* (1951), 1945.

ANNA LEA WEIHRER, A.B., M.S., *Instructor in Mathematics* (1955).

JAMES A. WELCH, B.S., PH.D., *Associate Professor of Animal Husbandry; Associate Animal Husbandman; Agricultural Experiment Station* (1952).

LLOYD WASHINGTON WELDEN, B.S., M.A., *Associate Professor of Speech* (1952), 1947.

DANA WELLS, A.B., M.A., PH.D., *Professor of Geology* (1952), 1930.

CHIN-YUNG WEN, B.SC., M.S., CH.E., *Instructor in Chemical Engineering* (1954).

DOROTHY MARGUERITE WENDT, M.S., *Instructor in Physical Education* (1954). (Resigned September 1, 1955).

Rita Ray Wertheimer, A.B., M.A., Ph.D., *Instructor in Psychology* (1952). (Resigned January 20, 1955).
Henry Cobia West, Jr., B.S., *Assistant Professor of Military Science and Tactics* (1952). (Resigned September 1, 1955).
Kyle Chester Westover, B.S., M.S., Ph.D., *Professor of Horticulture; Horticulturist, Agricultural Experiment Station* (1945), 1921.
Harry Grove Wheat, A.B., A.M., Ph.D., *Professor of Education* (1935).
Bennett Sexton White, B.S.M.E., *Professor Emeritus of Mechanical Engineering* (1946), 1919.
Ralph M. White, A.B., LL.B., *Assistant Professor of Political Science* (1951), 1940.
Helen Ruth Whitesides, B.S.H.E., M.S., *Instructor in Home Economics* (1954).
Waldo D. Whitney, A.B., M.S.S.W., *Assistant Professor of Social Work* (1952).
Frederick Rendell Whittlesey, B.A., M.D., *Assistant Professor (part time) of Medicine* (1940), 1930.
Mary Katherine Wiedebusch, B.S., *Instructor in Physical Education* (1955).
Dale L. Wilhelm, B.S., M.S., Ph.D., *Assistant Professor of Chemistry* (1954).
Harold Allen Williams, B.S., M.A., *Instructor in Education* (1949), 1940. (Resigned September 1, 1955).
John Rodney Williams, B.A., M.A., Ph.D., *Assistant Professor of Political Science* (1952), 1949.
Ogla D. Williams, B.A., *Laboratory Technician; Assistant in Animal Pathology* (1954).
T. Walley Williams, B.S., M.S., Ph.D., *Associate Professor of Anatomy and Histology* (1948), 1944.
Douglas B. Williamson, B.A., M.A., *Assistant Professor of Physics* (1946).
Charles Vinyard Wilson, B.S.Agr., M.S., *Professor Emeritus of Animal Husbandry* (1952), 1919.
Harold Albert Wilson, B.S., M.S., Ph.D., *Associate Professor of Bacteriology; Associate Bacteriologist, Agricultural Experiment Station* (1947).
May Landstreet Wilt, B.S., M.A., *Instructor in Education and Supervisor of Mathematics, University High School* (1931), 1925.
Leland Henry Winder, B.S.E.E., *Instructor (part time) in Mining Extension and Industrial Extension* (1953), 1952.
John E. Winter, Ph.D., *Professor Emeritus of Psychology* (1948), 1921.
Albert Freddie Wojick, B.S.Pharm., M.S.Pharm., *Assistant Professor of Pharmacy* (1949), 1945.
Kenneth Wood, Mus.B., Mus.M., *Associate Professor of Music* (1948), 1928.
Yvonne Mildred Woofter, A.B., A.M., *Instructor in Education and Teacher of English, University High School* (1936).
Donald Thomas Worrell, B.S.E.E., M.S.E.E., *Professor of Mechanics; Engineer, Mechanics, Engineering Experiment Station* (1955), 1941.
Fred Earl Wright, II, B.S., M.A., *Assistant Professor of Finance* (1955), 1951.
James W. Wright, A.M., *Associate Professor of Sociology, University Extension* (1947).
Margaret Ann Yarbrough, R.N., *Nurse, Infirmary* (1953).
Charles Peter Yost, B.S., M.S., *Assistant Professor of Physical Education* (1946).
James Robert Young, B.A., M.A., *Assistant Professor of Journalism* (1954).

Part IV

APPENDIX

DEGREES CONFERRED 1870-1955

Bachelor's Degrees

YEAR	A.B.	B. S.	LL.B.	B.S.C.E.	B.S.M.E.	B.S.E.M.	B.S.E.E.	B.S.Ch.E.	B.S.Ind.Ed.	B.S.A.E.	B.S.Agr.	A.B. in Law	Ph.B.	M.D.	D.V.	B.S.H.E.	Ph.C.	Ph.G.	B.Mus.	B.S.Ed.	B.S.Phys. Ed.	B.S.Pharm.	B.S.For.	B.S.Journ.	TOTALS
1870 to 1892	111	46	83	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	244
1893	12	2	11	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	30
1894	8	2	23	5	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	39
1895	10	4	24	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	41
1896	8	3	35	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	48
1897	11	2	44	2	2	....	....	....	....	....	....	5	....	....	....	....	....	....	....	....	....	....	....	....	66
1898	9	5	18	6	....	....	....	....	....	....	1	5	1	....	....	....	....	....	....	....	....	....	....	....	45
1899	12	2	40	7	1	....	....	....	....	....	2	....	2	....	....	....	....	....	....	....	....	....	....	....	66
1900	46	1	9	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	....	....	58
1901	30	....	9	3	....	....	....	....	....	....	1	2	....	....	....	....	....	....	....	....	....	....	....	....	45
1902	25	....	17	8	2	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	54
1903	29	1	10	6	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	48
1904	28	....	8	2	2	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	42
1905	20	2	22	4	3	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	53
1906	18	1	17	9	6	....	....	....	....	....	1	....	....	3	....	....	....	....	....	....	....	....	....	....	55
1907	32	3	12	14	4	....	....	....	....	....	2	....	....	8	....	....	....	....	....	....	....	....	....	....	75
1908	20	4	8	6	6	....	....	....	....	....	....	....	....	7	....	....	....	....	....	....	....	....	....	....	51
1909	27	3	2	15	4	....	....	....	....	....	1	....	....	4	....	....	....	....	....	....	....	....	....	....	56
1910	27	6	12	7	5	....	....	....	....	....	....	....	....	1	2	....	....	....	....	....	....	....	....	....	60
1911	27	5	12	6	7	2	....	....	....	....	3	....	....	4	2	....	....	....	....	....	....	....	....	....	68
1912	27	12	17	9	9	....	....	....	....	....	4	....	....	6	....	....	....	....	....	....	....	....	....	....	84
1913	28	9	15	3	1	....	2	....	....	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....	61
1914	28	13	12	4	1	....	5	....	....	....	12	....	....	1	....	....	....	....	....	....	....	....	....	....	76
1915	35	25	14	8	4	1	5	....	....	....	10	....	....	....	....	....	....	....	....	....	....	....	....	....	102
1916	40	8	9	2	4	1	6	....	....	....	10	....	....	....	....	....	....	....	....	....	....	....	....	....	80
1917	62	9	16	5	2	5	....	....	....	....	19	....	....	....	....	1	....	1	....	....	....	1	....	....	121
1918	40	8	5	4	4	1	4	....	....	....	17	....	....	....	....	2	....	....	....	....	....	....	....	....	85
1919	42	11	2	....	1	2	3	....	....	....	5	....	....	....	....	10	....	....	....	....	....	....	....	....	76
1920	79	22	16	11	2	....	5	....	....	....	14	....	....	....	....	17	....	1	....	....	....	2	....	....	169
1921	93	29	12	7	5	5	7	2	1	....	25	....	....	....	....	9	....	3	....	....	....	1	....	....	199
1922	56	48	17	7	5	7	6	3	....	....	18	....	....	....	....	17	....	10	....	....	....	....	....	....	194
1923	125	47	20	4	8	9	9	4	....	....	41	....	....	....	....	19	....	8	....	....	....	....	....	....	294
1924	130	43	18	9	8	2	18	7	1	....	25	....	....	....	....	25	....	11	....	....	....	1	....	....	298
1925	132	53	26	14	3	6	17	6	....	....	19	....	....	....	....	25	....	6	....	....	....	....	....	....	307
1926	169	58	26	19	5	11	9	4	1	....	22	....	....	....	....	19	....	5	1	....	....	2	....	....	351
1927	198	55	37	13	7	10	15	7	....	....	14	....	....	....	....	32	....	1	1	....	....	4	....	....	394
1928	211	48	35	7	3	7	17	4	....	....	15	....	....	....	....	28	5	....	....	....	....	3	....	....	383
1929	230	49	42	8	7	3	15	5	....	....	21	....	....	....	....	31	13	....	3	2	....	....	....	....	429
1930	264	42	42	7	2	3	24	9	....	....	22	....	....	....	....	22	10	....	10	23	1	1	....	....	482
1931	252	42	40	9	4	2	21	7	3	....	23	....	....	....	....	25	5	....	12	37	6	3	....	....	491
1932	209	54	42	11	7	5	17	6	3	....	24	....	....	....	....	39	4	....	14	25	17	2	....	....	479
1933	233	52	45	8	7	4	13	12	5	....	24	....	....	....	....	33	5	....	8	28	21	1	....	....	493
1934	216	48	32	5	5	4	16	10	5	....	18	....	....	....	....	31	3	....	....	19	26	1	....	....	439
1935	202	54	29	7	9	....	20	14	2	....	21	....	....	....	....	40	....	....	....	34	22	1	....	....	455
1936	214	43	44	13	8	7	13	26	3	....	25	....	....	....	....	32	1	....	6	37	25	6	....	....	503
1937	239	23	39	6	5	1	11	21	2	....	24	....	....	....	....	39	....	....	4	52	14	2	....	....	473
1938	249	17	37	7	10	4	15	19	....	....	17	....	....	....	....	36	....	....	13	49	20	7	....	....	500
1939	230	24	35	....	....	5	18	21	1	....	33	....	....	....	....	33	....	....	15	37	33	11	11	....	507
1940	192	30	34	5	19	11	16	31	....	....	47	....	....	....	....	28	....	....	8	30	29	8	12	14	514
1941	218	57	30	3	13	9	15	29	....	....	50	....	....	....	....	40	....	....	14	48	28	7	11	15	587
1942	219	53	28	6	19	5	6	24	....	....	47	....	....	....	....	42	....	....	17	32	15	13	10	16	552
1943	169	54	9	2	9	8	17	23	....	....	33	....	....	....	....	51	....	....	24	32	18	11	5	12	477
1944	108	57	6	9	11	8	14	17	....	....	7	....	....	....	....	45	....	....	14	18	12	6	1	11	344
1945	101	58	4	1	6	....	4	3	....	....	2	....	....	....	....	40	....	....	9	19	7	4	1	8	267
1946	116	83	11	3	7	1	1	5	....	....	12	....	....	....	....	30	....	....	14	20	10	4	3	9	329
1947	189	123	20	5	24	9	21	17	....	....	46	....	....	....	....	41	....	....	17	43	32	8	14	16	625
1948	249	297	53	11	47	11	23	29	....	2	49	....	....	....	....	38	....	....	17	34	36	25	12	26	959
1949	368	64	87	24	72	19	57	42	....	5	80	....	....	....	....	41	....	....	12	61	61	24	26	32	1075
1950	339	363	64	38	103	56	112	52	....	6	96	....	....	....	....	40	....	....	13	98	66	32	65	39	1582
1951	273	274	61	33	74	38	80	48	....	5	87	....	....	....	....	38	....	....	13	100	59	36	46	26	1291
1952	195	195	53	20	57	32	39	16	....	6	61	....	....	....	....	44	....	....	11	94	47	28	30	23	942
1953	161	169	43	16	25	27	20	14	....	1	64	....	....	....	....	34	....	....	22	90	47	15	27	10	786
1954	141	203	36	10	28	18	20	6	....	5	37	....	....	....	....	31	....	....	15	67	33	25	16	24	715
1955	163	187	44	14	21	14	21	18	....	2	43	....	....	....	....	44	....	....	17	67	26	21	22	14	738
Totals	7744	3305	1714	519	716	373	768	561	27	32	1307	13	3	34	4	1192	46	46	324	1196	711	316	312	295	21558

Master's Degrees

YEAR	A.M.	M.S.	LL.M.	M.S.Agr.	M.S.C.E.	M.S.M.E.	M.S.Ch.E.	M.S.E.M.	M.S.E.E.	M.Mus.	M.S.H.E.E.	M.S.W.	TOTALS
1873 to 1891	78	26											104
1892													
1893													
1894	1												1
1895													
1896	1												1
1897	1												1
1898			1										1
1899	3												3
1900	4												4
1901	3												3
1902	4	1											5
1903	4												4
1904	4		2										6
1905	2												2
1906	2												2
1907													
1908	1		2										3
1909	6												6
1910	2		1										3
1911	3												3
1912	1		1										2
1913	2		2										4
1914	1												1
1915	2	1	1										4
1916	5			1									6
1917	5												5
1918	1	2		1	1								5
1919													
1920	4	2											6
1921	5	2											7
1922	11	2											13
1923	13	1				1							15
1924	15	2		2			1						20
1925	14	3		3	2								22
1926	21	3		6			2						32
1927	27	1		5		1	1	1					36
1928	30	3		5			1	2					41
1929	36	5		3			1						45
1930	64	4		7				1					76
1931	39	29			1	1	2						72
1932	33	29			2			1	1				66
1933	46	19			3		2	1	2				73
1934	51	24					1						76
1935	62	23					4		2				91
1936	65	20			1		1						87
1937	76	19					2						97
1938	94	24											118
1939	119	22			1		1		1				144
1940	110	38					8						156
1941	132	39				1	4	1		1			178
1942	125	41					3			2			171
1943	71	14								1			86
1944	28	8											36
1945	23	7											30
1946	44	13						1	1	1			60
1947	105	72					4			1			182
1948	178	90				1	7			2			278
1949	207	88					6	1	1	4	12		319
1950	326	125			2	1	9	3	4		23		493
1951	336	143			2	9	14	1	2		12	9	528
1952	384	121			1	1	9	1	2	4	13	3	539
1953	323	98			1	1	6		1	8	9	3	450
1954	278	85			1	2	2		1	13	11	4	397
1955	228	86				1	3	2		8	8	10	346
Totals	3,859	1,335	10	33	18	20	94	16	18	45	88	29	5,565

Doctor's Degrees

	Doctor of Philosophy
1902	1
1907	1
1932	6
1933	5
1934	3
1935	10
1936	4
1937	2
1938	2
1939	3
1940	4
1941	4
1942	3
1943	3
1945	1
1947	3
1948	2
1949	5
1950	3
1951	6
1952	4
1953	8
1954	10
1955	10
Total	103

Professional Degrees

YEAR	Civil Engineer	Mechanical Engineer	Electrical Engineer	Chemical Engineer	Engineer of Mines	TOTALS
1889	3					3
1897	1					1
1898	1					1
1909		1	2			3
1915	3					3
1918	1					1
1920	1					1
1921		1				1
1924	1		1			2
1928		1				1
1929		1				1
1930			1			1
1932	1					1
1933	1	1				2
1934				1		1
1937		1				1
1938		1	2			3
1940			1		1	2
1941					1	1
1945			1			1
1946				1		1
1949	1					1
1950					1	1
Totals	15	6	8	2	3	34

Honorary Degrees

YEAR	Doctor of Philosophy	Doctor of Divinity	Doctor of Laws	Doctor of Literature	Doctor of Civil Laws	Doctor of Science	TOTALS
1875	1						1
1883		2	1				3
1885			1				1
1886			3				3
1887		1					1
1888	1	1	2				4
1889	1	2	1				4
1890	2		1				3
1891	1	4	1				6
1892	1	2	1				4
1893			1				1
1894	3	3		1			7
1896	1	1	1				3
1897			1		1		2
1919			15		2		17
1921			1				1
1928			1				1
1929			3				3
1932			2				2
1933			2				2
1934			1				1
1937			1				1
1938			1			1	2
1939			1	1			2
1940			3			1	4
1941			1				1
1942			3			1	4
1945			1			1	2
1948			1				1
1949			3			1	4
1951						1	1
1953			1				1
1954			1				1
1955			3				3
Totals	11	16	59	2	3	6	97

THE CLASSIFIED ENROLLMENT

A. The Summer Session, 1955

Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., and Home Ec.	21	20	41	33	13	46	17	11	28	7	6	13	78	50	128	.....	2	2	78	52	130
Arts and Sciences	76	22	98	100	36	136	170	71	241	116	21	137	462	150	612	21	20	41	483	170	653
Commerce	46	3	49	45	1	46	.....	.....	.....	.....	.....	.....	91	4	95	2	1	3	93	5	98
Education	23	39	62	12	31	43	.....	.....	.....	.....	.....	.....	35	70	105	8	25	33	43	95	138
Engineering	44	.....	44	78	.....	78	109	1	110	37	.....	37	268	1	269	.....	.....	.....	268	1	269
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	661	420	1,081	21	21	42	682	441	1,123
Journalism	4	2	6	5	1	6	.....	.....	.....	.....	.....	.....	9	3	12	.....	.....	.....	9	3	12
Law	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medicine	4	9	13	.....	1	1	.....	.....	.....	.....	.....	.....	4	10	14	.....	.....	.....	4	10	14
Mines	15	.....	15	14	.....	14	5	.....	5	3	.....	3	37	.....	37	1	.....	1	38	.....	38
Music	4	2	6	3	6	9	6	3	9	2	3	5	15	14	29	2	.....	2	17	14	31
Pharmacy	10	2	12	8	1	9	6	1	7	.....	.....	.....	24	4	28	1	.....	1	25	4	29
Phys. Ed. and Ath	13	5	18	11	7	18	9	6	14	6	3	9	38	21	59	.....	.....	.....	38	21	50
TOTAL	260	104	364	309	97	406	321	93	414	171	33	204	1,722	747	2,469	56	69	125	1,778	816	2,594

B. The First Semester (September to January), 1955-56

Agr., For., and Home Ec.	71	47	118	94	38	132	96	40	136	92	52	144	353	177	530	.....	4	4	353	181	534
Arts and Sciences	127	56	183	237	94	331	594	254	848	742	270	1,012	1,700	674	2,374	99	168	267	1,799	842	2,641
Commerce	143	16	159	92	11	103	.....	.....	.....	.....	.....	.....	235	27	262	5	1	6	240	28	268
Education	31	56	87	23	74	97	.....	.....	.....	.....	.....	.....	54	130	184	3	11	14	57	141	198
Engineering	133	.....	133	227	.....	227	309	2	311	248	1	249	917	3	920	1	.....	1	918	3	921
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	348	173	521	12	16	28	360	189	549
Journalism	14	7	21	14	6	20	.....	.....	.....	.....	.....	.....	28	13	41	1	.....	1	29	13	42
Law	42	.....	42	27	.....	27	53	.....	53	.....	.....	.....	122	.....	122	1	.....	1	123	.....	123
Medicine	32	10	42	28	18	46	.....	.....	.....	.....	.....	.....	60	28	88	.....	.....	.....	60	28	88
Mines	24	.....	24	13	.....	13	21	.....	21	10	.....	10	68	.....	68	1	.....	1	69	.....	69
Music	11	9	20	6	11	17	18	18	36	17	27	44	52	65	117	.....	.....	.....	52	65	117
Pharmacy	26	5	31	21	2	23	26	6	32	28	5	33	101	18	119	.....	.....	.....	101	18	119
Phys, Ed. and Ath	32	15	49	49	22	71	35	23	58	45	30	75	163	90	253	.....	3	3	163	93	256
TOTAL	688	221	909	831	276	1,107	1,152	343	1,495	1,182	385	1,567	4,201	1,398	5,599	123	203	326	4,324	1,601	5,925

C. The Second Semester (February to June), 1955-56

Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., and Home Ec.	76	41	117	85	37	122	80	37	117	81	48	129	322	163	485	1	4	5	323	167	490
Arts and Sciences	130	57	187	230	95	325	533	228	761	619	249	868	1,512	629	2,141	118	157	275	1,630	786	2,416
Commerce	142	15	157	116	12	128	.....	.....	.....	.....	.....	.....	258	27	285	2	.....	2	260	27	287
Education	32	50	82	24	77	101	.....	.....	.....	.....	.....	.....	56	127	183	8	8	16	64	135	199
Engineering	125	.....	125	229	1	230	281	.....	281	229	2	231	864	3	867	3	.....	3	867	3	870
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	369	176	545	17	16	33	386	192	578
Journalism	12	7	19	15	7	22	.....	.....	.....	.....	.....	.....	27	14	41	1	.....	1	28	14	42
Law	38	.....	38	28	.....	28	45	.....	45	.....	.....	.....	111	.....	111	3	.....	3	114	.....	114
Medicine	31	11	42	26	16	42	.....	.....	.....	.....	.....	.....	57	27	84	.....	.....	.....	57	27	84
Mines	20	.....	20	14	.....	14	21	.....	21	7	.....	7	62	.....	62	.....	.....	.....	62	.....	62
Music	11	9	20	9	13	22	17	17	34	13	21	34	50	60	110	.....	.....	.....	50	60	110
Pharmacy	29	5	34	22	2	24	24	6	30	24	5	29	99	18	117	.....	.....	.....	99	18	117
Phys. Ed. and Ath.	33	16	49	47	21	68	42	20	62	40	31	71	162	88	250	.....	.....	.....	162	88	250
TOTAL	679	211	890	845	281	1,126	1,043	308	1,351	1,013	356	1,369	3,949	1,332	5,281	153	185	338	4,102	1,517	5,619

D. The Academic Year (September to June), 1955-56

Agr., For., and Home Ec.	86	51	137	89	38	127	97	42	139	99	51	150	371	182	553	1	5	6	372	187	559
Arts and Sciences	143	62	205	259	103	362	632	254	886	753	278	1,031	1,787	697	2,484	179	258	437	1,966	955	2,921
Commerce	158	17	175	120	14	134	.....	.....	.....	.....	.....	.....	278	31	309	5	.....	5	283	31	314
Education	36	65	101	26	81	107	.....	.....	.....	.....	.....	.....	62	146	208	8	13	21	70	159	229
Engineering	151	.....	151	233	1	234	305	1	306	248	2	250	937	4	941	4	.....	4	941	4	945
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	459	242	701	21	22	43	480	264	744
Journalism	15	7	22	15	7	22	.....	.....	.....	.....	.....	.....	30	14	44	1	.....	1	31	14	45
Law	41	.....	41	29	.....	29	50	.....	50	.....	.....	.....	120	.....	120	4	.....	4	124	.....	124
Medicine	31	11	42	28	17	45	.....	.....	.....	.....	.....	.....	59	28	87	.....	.....	.....	59	28	87
Mines	23	.....	23	15	.....	15	24	.....	24	8	.....	8	70	.....	70	1	.....	1	71	.....	71
Music	11	9	20	9	14	23	18	18	36	16	21	37	54	62	116	.....	.....	.....	54	62	116
Pharmacy	29	6	35	22	2	24	24	6	30	25	5	30	100	19	119	.....	.....	.....	100	19	119
Phys. Ed. and Ath.	37	18	55	52	22	74	45	23	68	49	32	81	183	95	278	.....	.....	.....	183	95	278
TOTAL	761	246	1,007	897	299	1,196	1,195	344	1,539	1,198	389	1,587	4,510	1,520	6,030	224	298	522	4,734	1,818	6,552

E. The Summary for 1955-56

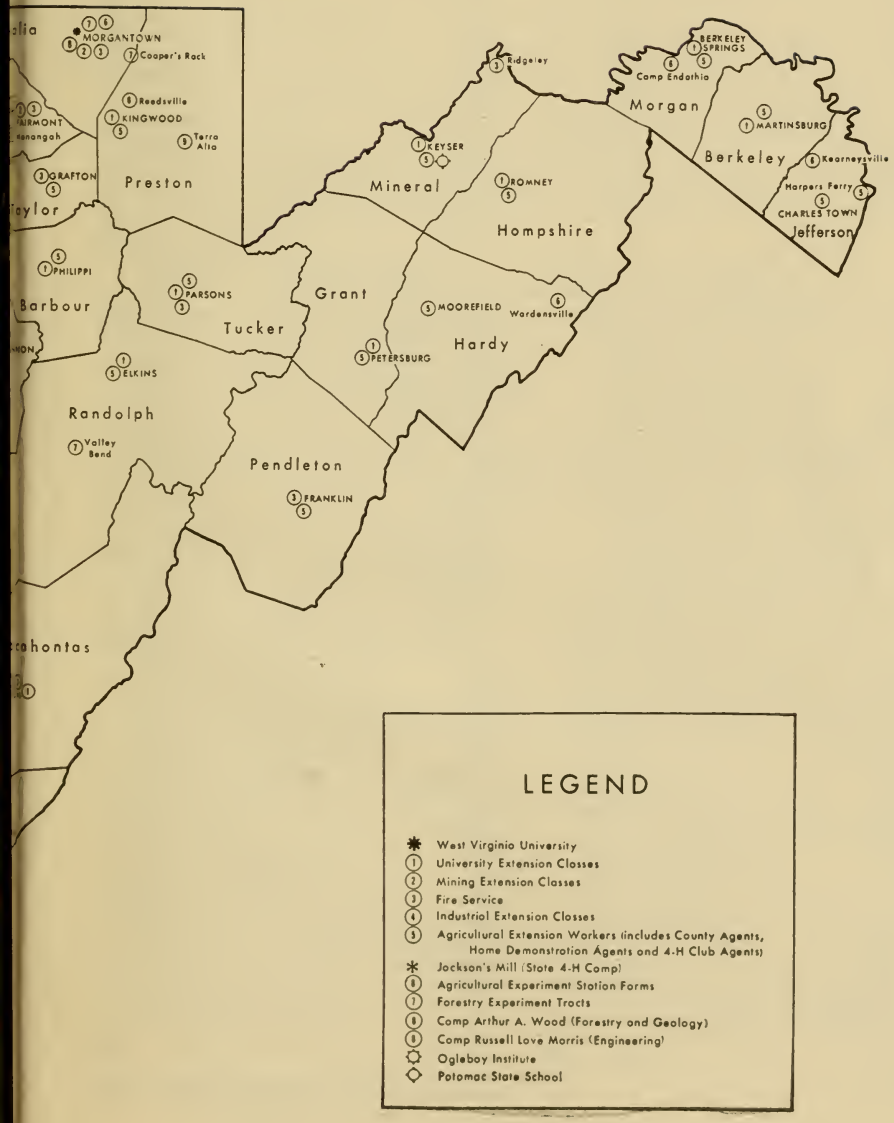
Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., and Home Ec.	88	54	142	89	39	128	98	42	140	101	52	153	376	187	563	1	7	8	377	194	571
Arts and Sciences	167	73	240	270	108	378	650	264	914	769	280	1,049	1,856	725	2,581	196	271	467	2,052	996	3,048
Commerce	178	17	195	122	14	136	.....	.....	.....	.....	.....	.....	300	31	331	5	.....	5	305	31	336
Education	47	83	130	29	90	119	.....	.....	.....	.....	.....	.....	76	173	249	15	31	46	91	204	295
Engineering	167	.....	167	235	1	236	308	1	309	250	2	252	960	4	964	4	.....	4	964	4	968
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	974	584	1,558	38	38	76	1,012	622	1,634
Journalism	15	7	22	15	7	22	.....	.....	.....	.....	.....	.....	30	14	44	1	.....	1	31	14	45
Law	41	.....	41	29	.....	29	50	.....	50	.....	.....	.....	120	.....	120	4	.....	4	124	.....	124
Medicine	32	11	43	28	17	45	.....	.....	.....	.....	.....	.....	60	28	88	.....	.....	.....	60	28	88
Mines	28	.....	28	15	.....	15	26	.....	26	8	.....	8	77	.....	77	2	.....	2	79	.....	79
Music	13	9	22	9	16	25	18	18	36	16	21	37	56	64	120	2	.....	2	58	64	122
Pharmacy	30	6	36	23	2	25	24	6	30	25	5	30	102	19	121	.....	.....	.....	102	19	121
Phys. Ed. and Ath.	37	21	58	53	23	76	48	24	72	51	34	85	189	102	291	.....	.....	.....	189	102	291
TOTAL	843	281	1,124	917	317	1,234	1,222	355	1,577	1,220	394	1,614	5,176	1,931	7,107	268	347	615	5,444	2,278	7,722

UNIVERSITY EXTENSION OF COLLEGIATE GRADE:			
University Extension of Collegiate Grade (Not counted elsewhere)	332	797	1,129*
University Resident Enrollment	5,444	2,278	7,722
Total University Enrollment of Collegiate Grade	5,776	3,075	8,851
CONFERENCES:			
Education Conference for State School Principals and Supervisors			143
Industrial Development Conference			264
Library Work Conference			50
State Music Conference			458
Technical Institute Program			41
State Scholastic Journalism Institute			140
West Virginia School of Banking			114
West Virginia Tax Institute, Inc., Conference			125
Total			1,335
EXTENSION: (Non Collegiate Grade)			
Coal Mining Night Classes			198
Coal Mining Short Course			19
Coal Preparation Short Course			8
Dairy Short Course			301
Fire Service			554
Industrial Electricity			75
Livestock Conference			150
Mine Equipment & Maintenance Night Classes			1,256
Mine Equipment & Maintenance Short Course			196
Oil and Gas			44
Total			2,801
SHORT COURSES AT MORGANTOWN:			
Advertising Short Course			35
Appalachian Gas Measurement Short Course			639
Athletic Adm. Council			22
Coal Mining Short Course			6
Driver Training Course			34
Feed Dealers Short Course			60
Fire School			190
Industrial Engineering Conference			110
Labor Education Institute			60
Labor Management Conference			100
Livestock Field Day			125
Recreation Workshop			39
Sheepmen's Short Course			60
Tailoring Workshop			22
Workshop on American Economy			26
Total			1,528
Grand Total			14515

*This number represents those persons enrolled only in extension courses of collegiate grade. Total extension enrollment of collegiate grade included 468 men and 917 women, totaling 1385, but 156 of these persons were also enrolled in resident instruction sometime during the year.

Hancock
Brooke
WELLSBURG
Beechbottom
Ohio
WHEELING
MOUNDSVILLE
Marshall
NEW MARTINSVILLE
Hundred
Pine Grove
Wetzel
MIDDLEBOURNE
Tyler
ST MARYS
Pleasants
Vienna
PARKERSBURG
WEST UNION
Doddridge
HARRISVILLE
Ritchie
Wood
ELIZABETH
Wirt
WESTON
Jackson's Mill
Lewis
GRANTSVILLE
Calhoun
GLENVILLE
Gilmer
Jackson
RIPLEY
POINT PLEASANT
Mason
SPENCER
Roane
Braxton
SUTTON
Webst
WINFIELD
Putnam
Kanawha
Clay
CLAY
Cabell
HUNTINGTON
Institute
St Albans
Dunbar
S.Charleston
CHARLESTON
Nicholas
SUMMERSVILLE
Richwood
HAMLIN
WAYNE
Wayne
Lincoln
Belle
Nellis
Seth
Montgomery
Smithers
Powellton
MADISON
Wharton
Whitesville
Leewood
Laokout
FAYETTEVILLE
Crichton
Roinette
Greenbr
Clothier
Sharples
Logan
Boone
Oak Hill
Fayette
Mt.Hope
Layland
Dingess
LOGAN
Holden
Omar
Dehue
Mingo
Accoville
Man
Amherstdale
Montcoal
Raleigh
BECKLEY
Mabscott
Amigo
McAlpin
Sophia
Stotesbury
LEWISBURG
WILLIAMSON
Red Jacket
Oceana
HINTON
Helen
Summers
UNION
Wyoming
PINEVILLE
Mullens
Itmann
Monroe
Mercer
Davy
McDowell
WELCH
Bishop
Coalwood
Gary
Jenkinjones
Bartley
Isaban
Berwind
Amonate
Motooka
PRINCETON
Peterstown
Bluefield

WHERE
WEST VIRGINIA UNIVERSITY
SERVES THE STATE



LEGEND

- ✱ West Virginia University
- (1) University Extension Classes
- (2) Mining Extension Classes
- (3) Fire Service
- (4) Industrial Extension Classes
- (5) Agricultural Extension Workers (includes County Agents, Home Demonstration Agents and 4-H Club Agents)
- ✱ Jackson's Mill (State 4-H Camp)
- (6) Agricultural Experiment Station Farms
- (7) Forestry Experiment Tracts
- (8) Camp Arthur A. Wood (Forestry and Geology)
- (8) Camp Russell Love Morris (Engineering)
- ⬡ Ogleboy Institute
- ◇ Potomac State School

Resident Enrollment, 1955-56, by West Virginia Counties

Barbour	77	Mineral	93
Berkeley	44	Mingo	47
Boone	33	Monongalia	1804
Braxton	54	Monroe	26
Brooke	79	Morgan	28
Cabell	60	Nicholas	60
Calhoun	39	Ohio	286
Clay	20	Pendleton	21
Doddridge	27	Pleasants	17
Fayette	144	Pocahontas	60
Gilmer	36	Preston	246
Grant	29	Putnam	25
Greenbrier	132	Raleigh	159
Hampshire	40	Randolph	114
Hancock	151	Ritchie	51
Hardy	40	Roane	50
Harrison	481	Summers	38
Jackson	38	Taylor	82
Jefferson	27	Tucker	54
Kanawha	538	Tyler	26
Lewis	75	Upshur	54
Lincoln	14	Wayne	17
Logan	90	Webster	47
Marion	404	Wetzel	86
Marshall	103	Wirt	9
Mason	33	Wood	224
McDowell	81	Wyoming	48
Mercer	118		
		Total	6779

By States, U. S. Possessions and Foreign Countries

Alabama	—	Pennsylvania	573
Alaska	—	Puerto Rico	2
Arizona	3	Rhode Island	—
Arkansas	2	South Carolina	1
California	—	South Dakota	—
Connecticut	4	Tennessee	—
Delaware	3	Texas	1
District of Columbia	9	Utah	—
Florida	12	Vermont	1
Georgia	—	Virginia	28
Hawaii	1	Washington	—
Idaho	—	West Virginia	6779
Illinois	7	Wisconsin	2
Indiana	6	Wyoming	—
Iowa	—		
Kansas	—	Total	7690
Kentucky	8		
Louisiana	—	Brazil	3
Maine	1	Canada	1
Maryland	98	China	9
Massachusetts	3	Chile	1
Michigan	5	Colombia	2
Minnesota	1	Costa Rica	1
Mississippi	—	Cuba	1
Missouri	1	England	1
Montana	—	India	4
Nebraska	—	Iran	1
Nevada	—	Korea	3
New Hampshire	1	Mexico	1
New Jersey	45	Netherlands	1
New Mexico	—	Philippines	1
New York	39	Sweden	1
North Carolina	2	Turkey	1
North Dakota	—		
Ohio	49	Total	32
Oklahoma	3		
Oregon	—	Total University Enrollment 1955-56	7,722

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UNIVERSITY CALENDARS

YEAR 1956

JANUARY

S	M	T	W	T	F	S
1	**2**	**3**	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY

S	M	T	W	T	F	S
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

MARCH

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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	**29**	**30**	**31**

APRIL

S	M	T	W	T	F	S
1	**2**	**3**	**4**	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MAY

S	M	T	W	T	F	S
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6	7	8	9	10	11	12
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20	21	22	23	24	25	26
27	28	29	**30**	31		

JUNE

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JULY

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22	23	24	25	26	27	28
29	30	31				

AUGUST

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19	20	21	22	23	24	25
26	27	28	29	30	31	

SEPTEMBER

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23	24	25	26	27	28	29
30						

OCTOBER

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21	22	23	24	25	26	27
27	29	30	31			

NOVEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	**6**	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	**22**	**23**	**24**
25	26	27	28	29	30	

DECEMBER

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						1
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16	17	18	19	20	21	22
23	**24**	**25**	**26**	**27**	**28**	**29**
30	**31**					

YEAR 1957

JANUARY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

FEBRUARY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

MARCH

S	M	T	W	T	F	S
					1	2
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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

APRIL

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	**8**	**9**	10	11	12	13
14	15	16	17	**18**	**19**	**20**
21	**22**	**23**	24	25	26	27
28	29	30				

MAY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	**30**	31	

JUNE

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

The days on which the University is in session are printed in light-face type; Sundays, holidays, and vacations in bold face type.

UNIVERSITY CALENDAR

1956

June 2, Saturday ..... Alumni Day
June 3, Sunday ..... Baccalaureate Exercises
June 4, Monday ..... Commencement Day
June 6, Wednesday ..... Registration, first term, Summer Session
June 7, Thursday ..... First Classes, first term, Summer Session*
July 4, Wednesday ..... Independence Day, a holiday
July 17, Tuesday ..... Close of first term, Summer Session
July 18, Wednesday ..... Registration, second term, Summer Session
July 19, Thursday ..... First classes, second term, Summer Session*
August 24, Friday ..... Close of second term, Summer Session
September 10, Monday, to September 16, Sunday, inclusive ... Freshman Week Program
September 14 and 15, Friday and Saturday ..... General Registration, first semester
September 17, Monday ..... First classes, first semester
October 9, Tuesday ..... Meeting of University Senate
November 5, Monday ..... Mid-semester reports due
November 6, Tuesday ..... Election Day, a holiday
November 22, Thursday, to November 25, Sunday, inclusive ..... Thanksgiving recess
December 22, Saturday, to January 1, Tuesday, inclusive ..... Christmas recess

1957

January 16, Wednesday, to January 22, Tuesday, inclusive
Final examinations, first semester
January 28 and 29, Monday and Tuesday ..... General Registration, second semester
January 30, Wednesday ..... First classes, second semester
February 7, Thursday ..... West Virginia University Day
February 12, Tuesday ..... Meeting of University Senate
March 25, Monday ..... Mid-semester reports due
April 18, Thursday, to April 24, Wednesday, inclusive ..... Easter recess
May 14, Tuesday ..... Meeting of University Senate
May 24, Friday, to May 31, Friday, inclusive ..... Final examinations, second semester
May 30, Thursday ..... Memorial Day, a holiday
June 1, Saturday ..... Alumni Day
June 2, Sunday ..... Baccalaureate Exercises
June 3, Monday ..... Commencement Day

*Classes will be held on June 30, July 28, and August 4.

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